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NAVAL POSTGRADUATE SCHOOL Monterey, California



THESIS

SHIP READINESS
AND PERSONNEL ATTRIBUTES
IN (DD 963) SPRUANCE CLASS SHIPS

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Jeffrey R. Crane

June 1984

Thesis Advisor:

W. E. McGarvey

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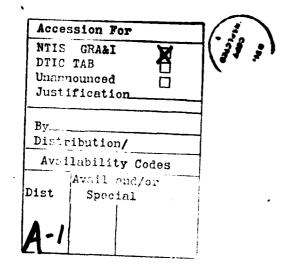
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Ship Readiness and Personnel Attributes in (DD 963) Spruance Class Ships

by

Jeffrey R. Crane Lieutenant Commander, United States Navy B.S., University of Utah, 1970

Submitted in partial fulfillment of the requirements for the degree of

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Keywords included)

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I. INTRODUCTION

In recent years Congress has imposed on the Department of Defense a requirement to show the relationship between proposed rescurces and readiness. This requirement calls for quantifiable and measurable effects upon readiness for resources obtained. In the Navy, a ship's readiness is measured against many different yardsticks. Readiness is defined as the degree to which a unit is capable of performing the wartime mission(s) for which it is organized, designed or tasked. Implicit within this definition are the many indices, inspections, competitions and unofficial Naval traditions by which a ship is evaluated.

The problem of why one ship is more effective, performs tetter and has a higher degree of readiness than another ship has been a heavily debated question. It has long been recognized that while certain ships have a sustained reputation of superior performance, other ships never seem to be able to make the grade. The question of ship readiness is clouded in issues such as ship equipment differences; even between ships of the same class, differences in Commanding Officer philosophies, quality of personnel assigned, and the quantity of personnel needed to effectively maintain and fight the ship.

Even more basic, is the question of what criteria defines effective ship performance? By some standards, just the ability to get underway and meet all operational commitments is the measure of a successful ship. Most ships are subject to several different periodic inspections such as the Fleet Commander's Propulsion Examining Board, the Combat System Readiness Review, or the Squadron Commander's Unit Inspection. The successful completion of all these major

inspections or perhaps more appropriately the not failing any phase of these inspections is considered by many a successful measure of a capable and ready ship. Another highly visible measure of the success of a ship is the ship's performance with respect to the Type Commander's Battle Readiness Competition. The mission area awards and the Squadron Commander's Battle Efficiency Award are highly sought after and can, by some, be deemed an important measure of a Commanding Officer's success.

Scme of the above efforts to measure readiness fall under the heading of operational readiness, where attention is mainly focused on operations that a ship is required to perform. Others fall under the heading of material readiness where attention is mainly focused on physical objects. Earizily, Marlow, and Zacks [Ref. 1] state that most measures of readiness used in the Navy are static measures that provide counts of people, equipment or hours of training. Their capability or effectiveness in doing a job is not necessarily addressed.

Given the above problems with the present measures of readiness, the major difficulty in any personnel characteristic to readiness analysis is separating those readiness measures attributable to ship, material and command effects from those measures truly attributable to personnel effects. It is important to measure readiness across a broad spectrum of the ship's missions, using standardized terminology and definition and developing suitable methods for relating readiness to personnel resource inputs.

The quality versus quantity questions of recruiting, selection and manning, when placed in the context of today's changing Navy, pose serious and potentially costly consequences if the wrong course of action is taken. With the trend in the Navy's newest classes of ships towards more complex and highly automated systems, higher quality

personnel in lesser numbers seems to be indicated. with the acre complex systems being installed in today's ships, a change in maintenance philosophy towards modular replacement has also occurred. This new maintenance philoscphy would seem to have less need for higher quality personnel. Consequently which path, higher or lower quality personnel, would be the best course for the Navy to follow in the future? Additionally, given the rising personnel costs with respect to training, compensation and retirement what optimum experience, pay grade and skills mix will produce optimum ship readiness? As the Navy expands towards the 15 lattle group concept within the environment of a shrinking available manpower pool, accurate answers to the above manpower questions are critical to effective manpower policy and planning.

Only in recent years have researchers tried to find the relationship between ship readiness and personnel attri-A Center for Naval Analysis (CNA) study, Horowitz and Sherman [Ref. 2], concluded that higher quality personnel are more valuable on ships with more complex On ships with relatively simple equipment, however, having a full complement of personnel might be more An earlier CNA study, valuable. Horowitz and Sherman [Ref. 3], concluded that entry test scores appear to be more consistent predictors of maintenance effectiveness than high school graduation status, and that a sailor's length of service was frequently a significant determinant of a ship's condition. Both of these CNA studies used as a criterion of data contained within readiness the the Consclidated Casualty Reporting System (CASREP).

Personnel turbulence or crew turnover has long thought to be a primary cause of low readiness in Navy ships. Reeves [Ref. 4] found no consistent significant relationship between levels of turnover and ship performance. However, he did conclude that the question does deserve continued examination.

May [Ref. 5] again used CASREP data as the basis for the criterion. This study used the personnel characteristics of the ratings within the engineering department in 17 Spruance class destroyers. Few significant relationships were found in the study and in some cases where relationships did prove significant, the results contradicted some of the results obtained in previous studies.

Hay, McGarvey, and Elster [Ref. 6] have expanded May's [Ref. 5] analysis to include three separate classes of ships, the DD 963 Spruance class destroyers, the DDG 2 Adams quided-missile destroyers, class and the CG 16/22 leahy/Belknap classes of guided-missile cruisers. personnel in 12 select ratings were included in the anal-Additionally, whereas May [Ref. 5] included all a ship's CASREPs while examining just the personnel of the engineering department, May et al. [Ref. 6] matched CASREPs to the ratings most responsible for maintaining the effected As with May's [Ref. 5] findings, few predictors proved to be consistently significant across ratings and ship classes. Also, some predictors, such as crew turbuproved to be counter-intuitive indicating that greater crew turn-over leads to higher readiness.

This analysis will examine criteria of ship readiness against personnel attributes continuing with and building upon the basic models of May [Ref. 5] and May et al. [Ref. 6]. As with the previous models the basic premise for this model is that older, more experienced, higher quality personnel, if assigned in the requisite numbers as defined by the Ship's Manning Document (SMD), will cause the ship to have a higher degree of readiness. Equipment maintenance history in the form of the equipment casaulty reports found in the CASREP system was matched to the personnel attributes

of the personnel assigned to seventeen Spruance class ships. Table 1 lists the seventeen ships included in this study.

The Spruance class ships are one of the newest of the Navy's destroyer type ships and are designed with highly sophisticated electronics and many automated systems. class of ships, even though almost the same size as the clder classes of cruisers, are manned with approximately one-half the crew. Additionally, all the Spruances were built in the same shippard and since they became operational, close control has been placed on equipment and ship modifications making this ship class as nearly identical from one ship to another as possible. Finally, the Spruance hull ard engineering systems form the basis for most of the Navy's new and projected cruisers-destroyers. Since one of the major problems in any study of this type is the ability to control for ship differences and since the Spruances are as close to identical as any ship class afloat, Spruance class of d∈stroyers were used in this study vice the three classes of cruisers-destroyers used in the May et [Ref. 6] analysis.

Part of the Surface Warfare Officer's folklore is the telief that a ship in a deployed status "operates" at a higher tempo and has less equipment casualties. The theory is that this "higher" degree of readiness stems from the ship being underway for greater continuous periods of time. Consequently, the ship is more able to manage its time when continuously encountering homeport distractions resulting in better quality training and equipment mainte-Since the higher readiness theory while on deployment is as strong as it is in the Surface Warfare Community, this analysis included a predictor for deployment effects that the previous models had not included.

A third major difference between this analysis and those of May [Ref. 5] and May et al. [Ref. 6], is the redefining

TABLE 1 List of Ships

<u>Ships</u>	Hull <u>Number</u>
USS Spruance	DD-963
USS Paul F. Foster	DD-964
USS Kirkaid	DD-965
USS Hewitt	DD-966
USS Elliott	DD-967
USS Arthur W. Radford	DD-968
USS Peterson	DD-969
USS Carcn	DD-970
USS David R. Ray	DD-971
USS Oldendorf	DD-972
USS John Young	DD-973
USS Comte de Grasse	DD-974
USS O'Erien	DD-975
USS Merrill	DD-976
USS Briscoe	DD-977
USS Stump	DD-978
USS Conolly	DD-979

of the ship manning variable. Previously, an independent variable called 'fill ratio' was included in the equations. This variable was the percentage of personnel actually onboard, by rating, as compared to the number of personnel authorized to be onboard by the Ship's Manning Document. In order to try to capture more of the "experience" issue, this analysis divided the fill ratio variable previously used into two parts. One variable, called UFILL, is designed to see what the effects of manning at the E-6 and above level has on readiness and the second variable, called IFILL, is concerned with the effects of the E-5 and below personnel.

Even though many ratings will have both an E-6 and an E-7 (or greater) authorized, it was thought that the E-6 and above represents the rating expert, the administrator, and the primary trainer for the junior members of the rating and thus his absence may be felt greater than a more junior serviceman.

II. DATA

A. DATA BASES

Three data bases were utilized in this analysis. The first data hase was supplied by Ships Parts Control Center (SPCC), Mechanicsburg, PA. This data contained the equipment history of the seventeen ships in question as reported in the Consclidated Casualty Reporting System (CASREP) for the period 30 September 1976 to 31 March 1983, a total cf 27 quarters.

The CASREP system is the ship's vehicle for informing the chain of command, the Naval supply system and the engineering design and assistance community that an equipment failure has occurred which directly affects the ship in a primary mission area. Reported by the individual ships, SPCC, Mechanicsburg compiles the CASREPs. Equipment casualties are classified in terms of a severity rating. The severity codes are as follows:

- C-2 (Substantially Ready) A deficiency exists in mission essential equipment which causes a minor degradation in any primary mission area.
- C-3 (Marginally Ready) A deficiency exists in mission essential equipment which causes a major degradation but not the loss of any primary mission area.
- C-4 (Not Ready) A deficiency exists in mission essential equipment that is worse than C-3 and causes a loss of at least one primary mission area.

In addition to the severity of the equipment casualty, other measures of readiness such as total hours the equipment was not fully operational, total hours in which the

casualty was being corrected, if technical assistance was requested and the suspected cause of the casualty are included.

The second data base was created from information provided by the Defense Manpower Data Center (DMDC). file contains the personnel attributes of the personnel assigned to the seventeen ships during the 27 quarters in question as extract∈d from their personnel files by DMDC. Application of the extraction procedures resulted in a total of 14,622 men that had served aboard the ships during the 27 For each case in this file, the information contained includes their: (1) Armed Forces Qualifying Test (2) whether they had a high school degree: (APQI) score: (3) age at accession; (4) present age; (5) paygrade; years of active duty; (7) number of months in their current a latel called "returner" indicating whether (8) they had served in that rating aboard that ship in the prior a latel called "uratee" indicating if the quarter: (9) seviceman was an E-6 or above: and (10) a label called "lratee" indicating if the serviceman was an E-5 or below.

Next aggregation by rating on these variables was conducted utilizing a "production macro". The program selected those cases by rating who were assigned during one of the 27 quarters. Then, by quarter and by ship, selected attributes associated with that rating were aggregated and central tendency measures (medians) computed. The attributes for which medians were computed were high-school degreed, AFCT scores, entry ages, present ages, paygrades, years of active duty, and sonths in current paygrades. Additionally, for the labels LRATEE and URATEE a sum is computed indicating the number of personnel in each category actually assigned to each ship each guarter. Then the aggregated measures for a given rating within a ship and within a quarter are merged by ship and quarter, and written to a new file.

A third data hase was also generated by DMDC and included, by rating, the number of personnel each shir was authorized as provided by CPNAV-914 from the Ship Manning Document (SMD). Data in this file, by rating, included (1) number of personnel authorized; (2) number of personnel assigned; (3) the number of personnel E-6 and above authorized; and (4) the number of personnel E-5 and below authorized.

E. DEFENDENT VARIABLES

Eleven criteria were computed from the CASRE? data. The criteria chosen are noted in Table 2. The variables total CASREFS (K1), total Level-2 CASREPS (K2), total Level-3 CASREFS (K3), and total Level-4 CASREPS (K4) were drawn directly from the information provided on the SPCC tape; as were calls for outside technical assistance (TECHASS).

The variables M (number of hours the equipment was down due sclely for maintenance), S (number of hours the equipment was down awaiting the receipt of the necessary corrective parts), and T (total number of hours the equipment was down) were computed using information contained within the CASRIF message. For example T, was computed by subtracting the date time group of the CASREP message from the date time group of the Casualty Correction (CASCOR) message.

INDEX01 is a "readiness" index derived by May et al. [Ref. 6]. It is parallel to the "mission essential material readiness and condition" (MENRAC) index computed by SPCC, but is slanted more toward maintenance downtime. INDEX01 was computed as follows:

INDEX01=Log((.1xK2xM) + (.5xK3xM) + (1.0xK4xM))/10
The underlying principle with this index is that downtime associated with more severe CASREPs (Level-4) should be weighted most heavily, followed by the next most severe

TABLE 2

Cependent Variables

K 1 K 2	Total number of CASREPs submitted by a ship Number of Level-2 CASREPs
K3 K4 TECHASS	Number of Level-3 CASREPs Number of Level-4 CASREPs
INCEXO1	Nr of technical assistance calls requested Readiness Index 01 (NPS)
MEMRAC PRECAUSE	Readiness Index (SPCC) Nr of presumed personnel-based casualties
M S	Total downtime for maintenance (hours) Total downtime awaiting parts (hours) Total downtime (hours)
T	Total downtime (hours)

CASREPS (Level-3) receiving a lesser weight, and those least severe CASREPS (Level-2) having their downtize weighted least, May et al. [Ref. 6]. Whereas the INDEXO1 index utilizes Level-2, Level-3 and Level-4 CASREPS, the MEMRAC index is found utilizing only weighted values of Level-3 and Level-4 CASREPS.

Precause is the number of presumed personnel-based CASREFS. Each Casualty Report contains a "cause code". The following cause codes were included in the PRSCAUSE criterion: (1) repair/overhaul inadequate; (2) personnel error; (3) personnel shortage; (4) grounding; (5) collision; (6) lost; (7) sabotage, or suspected deliberate damage; and (8) unknown. Unknown was included because of the possibility that a ship might not wish to admit personnel error.

Also included in the CASREP message is an Equipment Identification Code (EIC) which specifies the effected equipment. A standard listing of EIC's was obtained and each EIC was assigned to the rating most likely to be responsible for maintaining the equipment. Then a sort by EIC of the CASREPs by quarter and by ship was conducted matching the CASREPs to the ratings most likely to be responsible for the effected equipment. In the May et al. [Ref. 6] analysis, this "match" of ratings to EIC was conducted using the philosophy that if a rating to EIC match

was in dcubt it was included as part of the data for that rating. The present analysis chose to take the more conservative view, in that if doubt existed in an EIC to rating match, the EIC was excluded from the analysis. As a result, some ratings' EIC records experienced a 10 to 20 percent reduction in the number of observations. However, because of the large volume of data present, all ratings contained enough observations to conduct statistical studies.

In the previous study by May et al. [Ref. 6], it was not uncommon for the variable T (total hours downtime) to have a large standard deviation. Since the data in not only the CASREP file, but also the personnel attributes file is aggregated by quarter, it was thought that for those cases with a large "total hours of downtime" an appropriate relationship between a CASREP and the personnel responsible for correcting the equipment deficiency was not possible if the CASREP was not corrected until the following quarters. (CASRIPs were included in the quarter in which the casualty report was filed.) To better screen for this potential confound, a maximum of 2000 hours was used as a rough measure cf one quarters available maintenance hours. additional sort of the CASREP data was conducted, then keeping only those cases in which the total downtime was less than 2000 hours. After this sort, standard deviation for I, for most ratings, ranged from 800 to 1400 hours downtime.

C. INDEFENDENT VARIABLES

The personnel characteristics chosen as independent variables are shown in Table 3. These characteristics were chosen in line with the basic hypothesis that older, more experienced, higher quality personnel in the required numbers as defined by authorization, would improve readiness (decrease the number and severity of the casualties).

With the exception of the variables HSDG, LFIIL, and UFILL, for each of the variables, the median of the variable was used. The median was deemed to be relatively robust with respect to the potential for outlying observations. For ESDG, a percentage of high school graduates ontoard by rating was used. The median was initially used, but for HSDG it was found that the median was almost always a high school education.

TABLE 3
Personnel Characteristics Variables

HSDG AFCT	The perc∈ntage of high school graduates Armed forces qualification test scores
FNAGE	Entry Age
PBAG	Present Age
PAYGR	Paygrade
YBACD	Years of active duty
THEGR	Time in grade
IFILI	Percent onboard of authorizedE-5 and below
ŪFĪLĪ	Percent cuboard of authorized E-6 and above

For the remaining two variables, LFILL AND UFILL, a percentage was also used. LFILL equals the ratio of those personnel who are E-5 and below who are actually ontoard to those personnel who are E-5 and below who are authorized to be ontoard by the SMD. UFILL equals the ratio of those personnel who are E-6 and above who are actually ontoard to those personnel who are E-6 and above who are authorized to be on board by the SMD.

III. ABALYSIS

A. HETHCD

A standard block multiple regression analysis was used to determine the significance of the independent variables to one of the dependent variables. For each rating under investigation, and for each of the eleven dependent variables, a model was developed utilizing the nine personnel characteristics variables. In addition, the new ship effect variable, deployment, was included in each of the models. Consequently, 121 regressions (11 by 11) were computed. Appendix A contains the regression production program.

Given the great number of regressions computed and the corresponding large number of coefficients for consideration, the following criteria were used to determine which coefficients to base any interpretation upon. First, the overall \mathbf{E}^{2} 's for each of the 121 equations had to meet or exceed the $\mathbf{p} < .05$ criterion of statistical significance. Table 4 contains the prob-values for each of the equations and Appendix B contains those models which met the significance test. Second, the regression coefficient had to meet or exceed the conventional $\mathbf{p} < .05$ criterion in absolute value associated with a \mathbf{t} -test.

E. ANALYSIS

Even though the Spruance Class destroyers are as nearly identical as any class of ship in the fleet today, the first step was to attempt to control for the individual ship differences. To accomplish this, effect-coded variables were derived (-1, 0, +1). The effect-codes provided an estimate or reflection of when any one of the ships deviated

TABLE 4

	P-values	lssoc:	iated (ith R	2	
Derendent <u>Variatles</u>			Rat	<u>tings</u>		
	<u>gsm</u>	<u>HT</u>	<u>IC</u>	<u>em</u>	EN	<u>STG</u>
K1	.0024	.0001	-0001	.0081	-0001	
K 2	. 0059	.0001	.0001	.0383	.0001	-0457
K3	. 0377			.0200	.0030	
K 4					.0308	
INDEXO1	.0001	.0001	.0001	-0060	.0001	
MEMRAC	.0348	-0411		.0071	.0002	
PESCAUS		.0428		.0228		
TECHASS			.0479			
Ħ	.0001	.0001	-0054	.0270	.0079	
S					.0042	.0491
ī ·	.0049	.0005	.0056		.0006	
	<u>Fim</u>	<u>FTG</u>	GMT	<u>et</u>	<u>DS</u>	
K1	.0011	-0001	.0001	-0001	.0006	
K2	-0001	.0014	.0001	-0001	.0009	
К3		.0001				
K 4			*	-0464		
INDEX01	. 0018	.0001	.0036	.0001	.0025	
MEMBAC		-0001			.0209	
PRSCAUS			.0199	.0001	.0087	
TECHASS		.0010	.0151	.0043	.0010	
M	.0019			.0001		
S		.0001	.0001	-0001		
Î	.0027	.0001	-0002	.0001	-0101	
* No level-4	CASREFS	were r	eporte	l for	the GMI	rating
greatly from th	e mean. e	ither (greate	or l	ower.	with res
to any one of t			-		·· · · · · ·	
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An overhaul variable was also included in the models. This variable was added to better "control" for the individual ship differences. When a ship enters an overhaul period, it traverses three stages as far as the CASREP system is concerned. Just prior to overhaul, the ship maybe identifying more equipment than normal to the CASREP system so that during overhaul these problems will be corrected i.e. money and parts which might not have been available can te found to correct those problems not previously funded. Second, during an overhaul period, a ship usualy does not submit or submits very few CASREPs since the ship is not in an "operational" status. Third, during the later stages of an overhaul, the ship desires to make the chain of command aware of potential problems which will effect her readiness upon l∈aving the overhaul period. All of the ships included in this study spent at least some portion of the 27 quarters Therefore, in an overhaul availability. the dichotomous dummy variable OVERHAUL was added to take into account those quarters that the ships were in an overhaul period.

The Spruance destroyers are a relatively new class of ships, with the lead ship being commissioned in 1975. part of this new construction process, the ship builder established a warranty period in which he was responsible to correct any contractor design and construction related deficiencies. Because of this warranty period, it was postulated that a ship might submit more CASREPs than normal to both document contractor responsible deficiencies and to get in the correction of equipment casualties. contractor aid Consequently, the variable PREWRNTY was included in the model to taken into account the period when a ship was in the contractor warranty period.

A length of service variable (SERVICE) was also included in the model. Even though these ships are relatively new and it is hoped that in the nine years since the lead ship was commissioned, a significant deterioration over time would not be evident, it was thought some deterioration might occur and thus this variable was included.

The last ship "effect" variable to be included in the model is DEPFLT. This variable attempts to control for any effects that might be introduced because the ship is in a deployed status i.e. cut of homeport and assigned to a fleet other than one of the CONUS fleets. A ship's deployment status was determin€d from the CASREP message using the "operational fleet assigned" codes. If a ship was assigned to either the Sixth Fleet or the Seventh Fleet, it was considered on deployment. This variable was not included in either the May [Ref. 5] or the May et al. [Ref. 6] models. It was included in this analysis because of the common teli€f of the Surface Warfare community that a ship once on deployment has less CASREPs and operates at a higher degree cf readiness.

C. ANALYSIS BY RATING

Table 5 summarizes the results from the regression analyis. Table 5 is divided into two categories, intuitive results and counter-intuitive results. The intuitive results support the hypothesis that higher quality personnel, more experienced personnel and being manned to at least authorized manning levels enhances readiness (decreases CASREPS, and decreases hours down for casualty correction). Tables 6 and 7 provides a frequency analysis of Table 5. Following is a rating by rating summation of the results:

<u>Flectronics Technician</u> (<u>EI</u>):

Higher readiness was associated with Electronic Technicians who have been in the service longer, entered the service at an older age, have a greater time in grade and

TABLE 5
Readiness Coefficients

	Intuiti v e <u>Results</u>	Counter-Intuiti ve Results
ET Rating KT K2 INDEX01 PRSCAUS TECHASS	YR ACD YR ACD YR ACD TM EGR EN AGE TM EGR	DEPLOY DEPLOY PRAGE DEPLOY
FTG Rating K1 K2 K3 INDEX01 MEMRAC TECHASS	AFOT AFOT DEFLOY HSDG HSDG AFOT DEFLOY HSDG UFILL	LFILL LFILL LFILL LFILL LFILL LFILL
FIM Rating INDEXUI	AF CT UFILL EN AGE PA YGRD PA YGRD PA YGRD	LFILL PRAGE PRAGE
Rating RZ	UFILL UFILL UFILL UFILL	ENAGE LFILL
SIG Rating K2 M		TMEGR DEPLOY TMEGR
IC Rating K1 K2 TECHASS	PAYGRD PAYGRD	DEPLOY DEPLOY
EM Rating KZ K3 MEMRAC FRSCAUS	AFOT DEFLOY AFOT UFILL UFILL	DEPLOY

TABLE 5 (cont'd)

	Intuitive <u>Results</u>	Counter-Intuiti ve <u>Results</u>
GMT Rating	HS DG PR AGE LF ILL	ENAGE
K2 INDEX 01	HS DG PR AGE	
PRSCAUS TECHASS	HS DG PR AGE HS DG HS DG PR AGE PR AGE PR AGE PR AGE	
S	PR AGE PR AGE	ENAGE ENAGE
EN Rating		DEPLOY ENAGE
K2		ENAGE DEPLOY ENAGE
K4	AF OT EN AG F	YRACD
INDEXO1 M T	ÊN ÂĞ E PR AGE PR AGE PR AGE	ENAGE ENAGE
GSM Rating K3 MEMRAC S	DE FLOY DE PLOY HS DG	
ET Rating		DEPLOY
K2 INDEXO1 MEMRAC	AFQT	DEPLOY

are presently younger. Total numbers of CASPEPS, total Level-2 CASREPS and the N.P.S. readiness index all were improved by having FI's who had increased years of active duty. Fewer personnel-based caused CASREPS were associated with FI's who were younger and who had more time-in grade. Fewer technical assistance requests were filed by EI's who were clder when they entered the Navy and who had a greater time in grade. Contrary to the belief that being on deployment increases readiness, for the EI's, the total number of CASREFs, the number of Level-2 CASREPs and the number of technical assistance requests increased during a deployment.

TABLE 6 Frequency Distributions

Intuitive Results

Rating

	Frequency	<u>Perceat</u>
GMT FTG	10	21.15 19.23
ĒĪ	ۉٞ	11.54
FTM EM	5	9.62
EN	5,	9.62
DS GSM	3	5.77
IC HT	2	3.85
STG	ó	0.0

Personnel Attributes/Deployment

	requency	Percent
Present age Percent E-6 and above onboa	ırd g	15.38
High school degreed AFCT Percentile	8 8	15.38 15.38
Derloyment Pavgrade	5 5	9.62 9.62
Tears of Active duty Age at Entry	3	5.77
Time in grade Percent E-5 and below onto	. zd 1	3.85

Readiness Measures

	Frequency	<u>Percel t</u>
Total Level-2 CASREPS Nr of Technical Assist Cal	1s 7	13.46
NPS Readiness Index	<u> </u>	11.54
Total Number of CASREPs Total Downtime Fours	5	9.62
SPCC Readiness Index	5,	9.62
Maintenence Downtime Surply Downtime	4	7.69
Personnel based CASREPs Total Level-3 CASREPs	3	5-77
Total Level-4 CASREPS	2	3.85

TABLE 7 Prequency Distributions

Counter-Intuitive

<u>Rating</u>

	<u> Frequency</u>	<u>Percei t</u>
EN	7	21.21
FIG	ę.	18.18
ET	4 2	9-09
STG GMT	3	9.09
HT	ž	9.09
ΫĪM	ž	6.06
DS	2	6.06
<u>IC</u>	2	6.06
EM	1	3.03
GSM	U	0.0

Personnel Attributes/Deployment

Dania mana	Frequency	Percent
Derloyment Age at entry	82	24.24
Percent E-5 and below onb Present age	Soard 7	9.09
Time in grade Years of active duty	í	3.03

Readiness Measures

makal didayana silal	Frequency	<u>Percent</u>
Total CASREPs filed Total Level-2 CASREPs f	iled 7	21.21
NFS Readiness Index Maintenence downtime	4	12.12 12.12
Surply downtime Total downtime hours	2 2	6.06 6.06
Total Level-3 CASREPS Total Level-4 CASREPS	1	3.03
SPCC Readiness Index Fersonel-based CASREPs	į	3.03
Technical Assistance ca		3.03

Fire Control Technician (Guns) (FTG):

The high school graduate, the higher quality person as indicated by A.F.Q.T scores, being on deployment and having the required numbers of E-6 and above personnel assigned were all associated with enhanced readiness in the With better A.F.Q.T scores, the number of Level-2 CASREPs, the total number of CASREPs, and the total hours of downtime were all decreased. The number of Level-3 CASREPs were decreased by having high school degreed personnel and ty being on deployment. The N.P.S readiness index was lowered by personnel with increased A.F.Q.T scores and more high-school degreed rersonnel. The number of technical assistance requests were decreased by increased numbers of high school degreed personnel and by increased numbers of E-6 and above FTG's cnboard.

The total number of CASREPS, the number of Level-3 CASREFS, the number of hours awaiting supply parts and the total hours the equipment is down were all decreased with a lesser number of E-5 and below personnel. This counterintuitive result appeared in only one other rating, Data System Technician, but was strongest for the FTG rating. Given the strong E-5 and below counter-manning indication and the strong quality and E-6 and above intuitive manning indication, an argument might be made, at least for the FTG's, for more experienced high quality personnel in the more senior paygrades.

Fire Control Technician (Missile) (FTM):

The results of the analyses for the FTM's seems to follow the experience argument of the FTG's. Higher paygrades, clder age upon entering the service and a younger present age with the required numbers of E-6 and above personnel all led to enhanced readiness. The number of hours down for maintenance, the hours awaiting supply parts and the total hours down for repair were all decreased with

increased pay grade. In addition, personnel who were clder when they entered the Navy, and relatively younger personnel decreased hours down for maintenance. The N.P.S. readiness index was improved by younger personnel and manning with E-6 and above personnel.

Data System Technician (DS):

As with the May et al. [Ref. 6] analysis for the Data System Technician, manning appeared to be the key issue associated with increased readiness. Manning at the E-6 and above level led to a lesser number of Level-2 CASREPs, a lesser number of calls for technical assistance, decreased hours awaiting for supply parts and decreased total time down. Younger personnel when they entered the service lowered the S.P.C.C. readiness index. Also, a lesser number of E-5 and below personnel was associated with a decrease in the number of personnel-based caused CASREPs.

Sonar Technician (Surface) (STG):

Increased readiness for the STG rating was associated with a shorter time in grade and not being on deployment. A decrease in the number of Level-2 CASREPs filed and the time the equipment was down for maintenance occurred with a decrease in the time spent in grade. Additionally, being on deployment increased the hours down for maintenance.

Interior Communications Electrician (IC):

For the IC rating, enhanced readiness was associated with higher paygrades and as with the STG's not being on deployment. The number of technical assistance requests and the number of Level-2 CASREPs decreased with increased paygrade. However, the number of Level-2 CASREPs as well as the total number of CASREPs increased while on deployment.

Electrians Mate (EM):

Higher quality personnel and being mannel with the required numbers of E-6 and above personnel enhanced readiness for the EM's. Better A.F.Q.T. scores were

associated with decreased numbers of Level-3 CASREPs and a decreased S.P.C.C. readiness index. Increased manning at E-6 and above level decreased the number the personnel-tased CASRIFs and the number of hours down for mainterance. For the EM's, being on deployment seemed to produce conflicting results since deployment decreased the readiness index while increasing the number of Level-2 CASREPs filed. The S.P.C.C. readiness index is a function of the number of Level-3 and Level-4 CASREPs and the asscciated downtime. While being on deployment increased the number of Level-2 CASREPs, on the aggregate, the number of Level-3 and Level-4 CASREPs and the associated downtire spent correcting the casualties decreased.

Gunners Mate technician (GMT):

The GMT rating had increased readiness with older, high school graduates who were younger when they entered the service. The total number of CASREPs filed, total number of Ievel-2 CASREPs filed as well as the number of technical assistance requests all decreased with more high school graduates and older personnel. Older personnel also readiness index, decreased the N.P.S. the hours spent awaiting supply parts and the total hours the equipment was In addition, the total number of CASREPs, the hours awaiting supply parts and the total hours down all decreased with GMT's who entered the service at an earlier age. cther personnel characteristic was significant for the GMT's. An increase in the number of E-5 and below personnel decreased the total number of CASREPs filed.

Engiremen (EN):

Increased readiness for the EN's was associated with clder, higher quality personnel and not being in a deployed status. Older present age led to a decrease in the N.F.S. readiness index, a decrease in the total number of hours the equipment was down for maintenance and a decrease in the

total number of hours the equipment was down. A younger age at enlistment was associated with a decrease in the total number of CASREPs filed, the total Level-2 CASREPs filed, the N.P.S. readiness index and the number of hours down for maintenance. Total Level-4 CASREPs filed decreased with increasing A.F.Q.T. scores and with decreasing years of active duty. Total CASREPs filed and the total number of Level-2 CASREPs filed increased when on deployment. An apparent ancmaly existed in the EN analysis. Older age personnel at enlistment tended to have lower Level-4 CASREPs which was counter to the findings noted for the less severe CASREPs.

Gas Turbine Systems Technicians (Mechanical) (GSM):

Increased readiness for the GSM's was associated with more bigh school degreed personnel and with being on deployment. Serious CASREEs as indicated by the S.P.C.C. readiness index and the number of Level-3 CASREPs filed, decreased for the GSM's while on deployment. The number of hours down awaiting supply parts decreased with an increased number of high school graduates.

Hull Technicians (HT):

Being in a deployed status led to a decrease in readiness for the Hull Technician rating. While increased A.F.Q.T. scores improved the S.P.C.C. readiness index, being on deployment led to an increase in the total number of CASREFS filed, the total Level-2 CASREPS filed, and the N.P.S. readiness index.

IV. CONCIUSIONS AND RECOMMENDATIONS

A closer examination of Tables 6 and 7 tends to support the initial hypothesis that an older, nore senior, higher quality force manned at authorized manning levels will lead to increased readiness. Almost 64 percent of those personnel attributes which were intuitively significant fall into the older, experience, quality category i.e. present age, percent E-6 and above onboard of authorized, high school degreed and A.F.Q.T. percentile. The personnel attribute "present age", however, only seemed to latter for two ratings, GMT and EN. Both of these ratings are similar in that both are concerned primarily with hydraulically and electrically run mechanical equipment. An examination of the counter-intuitiv€ results reveals that a serviceman's age at entry was also significant a relatively large portion However, as with the attribute present age, of the time. age at entry is also associated almost entirely with the GMT and the FN ratings. Consequently, at least for these two ratings, an argument may be made that for enhanced readiness personnel should be clder when they enter the service and have an clder present age.

Consistent with May [Ref. 5] and May et al. [Ref. 6], both the personnel attributes high school legreed and A.F.Q.T. percentile were also significant a relatively large portion of the time. Additionally, these attributes were not confined to any one rating, but were found in a variety of ratings and occupational categories. The attribute "paygrade" is the fifth most active intuitively correct predictor. "Paygrade", like high school degreed and A.F.Q.T. percentile was not found significant in any one particular rating. Combining these three attributes, the

intuitively appealing picture that emerges is that a more senior force (as defined by paygrade) and a higher quality force (as defined by high school degreed and A.F.Q.T.) will enhance ship readiness.

Both the manning level characteristics were found to be good predictors of readiness. The two predictors were criqinally defined on the basis of percent of authorized onboard, by rating, who are the organizers, trainers, and administrators (E-6 and above); and the percent of authorized personnel onboard by rating who are the maintainers (E-5 and below). The E-6 and above characteristic, when significant, was always intuitively correct i.e. the more E-6 and above personnel, the better the readiness, and was found across several ratings (all electrically oriented). The E-5 and below characteristic, when significant, was almost always counter-intuitive i.e. a decrease in the number of E-5 and below personnel and an increase in readiness would result. Unlike the E-6 and above characteristic, the F-5 and below characteristic was found significant primarily with the FIG rating.

In the Spruance destroyers, the FTG's primary concern is the MK 86 Gunfire Control System. The Spruances were one of the first ships of the fleet to use this new gunfire control system. This new system was in many ways a radical change from the way the FTG's had been "doing business". The more senior FTG's were apparently more able to adapt and maintain this new equipment than the junior FTG's and consequently, were more critical to increased readiness. In fact in this case at least, the E-5 and below personnel were detrimental to readiness.

The predictor deployment was the final characteristic found to be significant a relatively large percentage of the time. While this predictor is not a personnel attribute or characteristic, some of the results from this analysis with

respect to this variable are worth noting. First, being on deployment was the single largest reason for decreased It effected a variety of ratings readiness. occupational groups including ET, ST, IC, EM, EN, and HT. Second, an examination of the readiness criteria associated with the predictor deployment reveals that when the relationship of deployment to the criterion is intuitive, the criterion is less severe, e.q., Level-2 CASREPS. When the relationship is intuitive, the criterion is at least Level-3 CASREPs or a criterion developed from the mcre severe CASRIFS. Consequently, for several of the ratings, being on deployment means more Level-2 CASREFS, while fcr other ratings, being on deployment means less Level-3 CASREPs.

Speculation about this observation might be explained by the CASREP system. As part of the CASREP message, if parts are needed to correct the equipment casualty, the requisitioning of the part may be included in the CASREP message. The priority the surply system attaches to the needed part is dependent on the severity of the equipment casualty. However, this priority changes with a change in deployment status. The priority for a supply part for a Level-2 CASREP while on deployment is the same as the priority for a Level-3 CASREP when not in a deployed status. Consequently, the increased number of Level-2 CASREPs experienced by several cf the ratings, might be more a reflection of the Naval Supply system than an actual decrease in equipment readiness. Indeed, one might infer that the CASREF system is more accurately reporting supply parts and status than equipment readiness.

A major stumbling block to all of the analyses of this type has been the inability to fully control for ship differences. Table & contains the &-squared values for the equations used in this analysis. As can be seen from the

TABLE 8

Hodels R-square Values

Derendent <u>Variables</u>			<u>Ratings</u>		
	GSM HT	IC EM	EN STG	FIM FTG	GMI ET DS
K 1	.18 .17	.26 . 17	.25 .10	.15 .22	.20 .24 .15
K 2	.17 .17	.26 .15	.23 .11	.17 .14	.17 .24 .15
к 3	.15 .08	.11 .16	.18 .06	.10 .21	.09 .08 .10
K4	.10 .09	.10 .09	.15 .08	.07 .11	* .11 .09
INCEXO1	.22 .19	.24 . 17	.23 .09	.15 .19	.14 .20 .14
MENRAC	.15 .11	.14 . 17	.21 .07	.10 .25	.10 .09 .12
PRSCAUS	.14 .11	.13 .16	.14 .09	.08 .09	.12 .18 .13
TECHASS	.11 .09	.15 . 13	.15 .09	.09 .15	.12 .13 .15
M	.22 .16	.17 .15	.17 .07	.15 .11	.08 .17 .10
S	.13 .09	.14 .11	.18 .11	.11 .18	.19 .21 .11
T	.18 .15	.17 .13	.20 .09	.14 .19	.16 .21 .13
* No level	-4 CASREF	s were i	eported	for the	GMT rating.

Table, each of the mcdels explain only from 10 to 30 percent cf the variations of the readiness criteria. Results such as this have been obtained in most of the previous mcdeling where CASREP data is used as a measure of ship readiness irrespective of how the independent variables are defined or aggregated. Given the low R-squared values for this analysis, even though such effort was spent in attempting to control for ship differences, deployment, overhaul, warranty effects, and length of service, the contributions to the model by the personnel attributes remain relatively small.

While the CASREP data set is, in its present form, an attractive and easy vehicle around which analyses of this type can be conducted, to date firm conclusive results have not been forthcoming. Alternative measures of readiness are available; some combination of these alternative criteria, in combination with the CASREP data, should be explored if

the personnel attributes to ship readiness problems are to be fully understood.

APPENDIX A REGRESSION 'PRODUCTION' PROGRAM

```
CATA IRNSFRM1: SET FILFIN2. SHIPINFO:
U=UIC+0:DROP UIC: IF SHIPTYPE= DD":
LATA IFNSFRM2 SET TRNSFRM1: UIC=U:DROP U;
DATA IFNSFRM3 SET FILFIN3. AGGCASRP:
U=UIC+0:DROP UIC: IF RAINGEIC=+++++:
CATA IFNSFRM4 SET TRNSFRM3; UIC=U; DROP U;
FROC SORT EY UIC QUARIER:
LATA IFNSFRM5 SET FILFIN1. READY+++:U=UIC+0:DROP 'IC;
LATA SPRUANCE SET TRNSFRM5; UIC=U; DROP U;
FROC SORT
BY UIC CUARTER:
LATA IFNSFRM6 SET FILFIN4. INISMD: U=UIC+0:DROP UIC;
LATA IFNSFRM6 SET TRNSFRM6; UIC=U; DROP U;
LATA COME1; MERGE
SPRUANCE TRNSFRM4; BY UIC QUARTER;
LATA COMEO MERGE
CCMB1 TRNSFRM2 IRNSFRM7; BY UIC;
ARRAY Y (J) SRVQRIO1-SRVQRI27;

DO OVER Y:

IF QUARTER=J THEN SERVICE=Y:
END; DROP J SRVQRTO1-SRVQRT27;

ARRAY Q (R) QRTENC1-QRTEND27;

DO OVER Q:

IF QUARTER=R THEN QRTDATE=O:
END; DROP R QRTEN DO1-QRTEND27;

IF (WARRANTY-QRTIATE) GE O TH

PREWENTY=O:
                                                                                                                                     THEN
                                                                                                                                                            PREN RNTY=1:ELSE
IN THE NEXT SECTION, PREVIOUSLY "MISSING" CASREP DOWNTIME INFORMATION IS RECODED TO THE VALUE O. COLLATERAL ANALYSIS REVEALED SOME NON-OVERHAUL QUARTERS WITH "MISSING" DOWNTIME LATA, SUGGESTING "PERFECT" READINESS. AS A CCNSEQUENCE, ALL "MISSING" CASKEP INFORMATION IS CODED ZERC, UNDER THE ASSUMPTION OF INCLUDING A CUMMY VARIABLE (VIZ., CVERHAUL) AS A CONTROL FOR OVERHAUL QUARTERS IN ANY LINEAR MCDEL.
 ARRAY X (I) K1 K2 K3 K4 INDEX01 MEMRAC TECHASS PS T LRATEE URATEE; DO OVER X; IF X=. END; DROP I;
 IN THIS SECTION THE VARIABLES UPILL AND LFILL ARE DEFINED.
 UFILL+++= (URATEE/URATE+++) * 100:
IFILL+++= (LRATEE/LRATE+++) * 100:
 IN THIS SECTION, THE VARIABLE OVERHAUL IS DEFINED.
  IF (QUARTER=1) AND (QUARTER=1) (QUARTER=2))) THEN OVERHAUL=1;
                                                                                                                                    OR (QUARTER=18)
```

```
IF ((UIC=575)

CVERHAUL=1

IF (UIC=586) A

IF (UIC=588) A

IF (UIC=588) A

CR (CUARTER=6)

CVERHAUL=1:

IF ((UIC=589)

(QUARTER=26))

IF ((UIC=590)

(QUARTER=10)))

IF ((UIC=591) A

IF (UIC=601)
                                AND ((QUARTER=18)
                                                                      OR (QUARTER=19)))
                                                                                                             THEN
                                 O (QUARTER= 5)) THEN OVERHAUL= 1
O (QUARTER= 22)) THEN OVERHAUL= 1
O ((QUARTER= 1)) OR (QUARTER= 2) OR (QUARTER= 3)
OR (QUARTER= 22) OR (QUARTER= 23))) THE
                           AND
                            AND
                             ANC ((QUARTER=4)
THEN CVERHAUI=1;
                                                                            ÜR
                                                                                    (QUARTER=9)
                                                                                                                OR
                             AND ((QUARTER=5) CR (QUA
THEN CVERHAUI=1;
ND (QUARTER=24)) THEN OVERHAUL=1
AND ((QUARTER=25) OR (QUARTER
                                                                                    (QUARTER=9)
                                                                                                                OR
                            AND
                                                                     OR (QUARTER=26)))
                                                                                                             THEN
 CVERHAUL=1
     ((ÜIC=611) AND (CUARTER=13)) THEN OVERHAUL=1
OVERHAUL= THEN OVERHAUL=0
                                                          DEPFLT IS DEFINED TO CONTROL DUE TO DEPLOYMENTS.
 IN THIS
                  SECTION THE VARIABLE
EFFECTS
                                                                                             DEPLOYMENTS.
 FOR
```

```
EFFECT CCDES (-1.0.1) ARE NOW ASSIGNED TO EACH OF THE SHIPS BY UIC WITH USS SERUANCE (DD-963)-UIC 574 ASSIGNED -1.
IF UIC=611 THEN UICEFF01=1: IF ((UIC NE 611) AND (UIC NE 574)) THEN UICEFF01=0; IF UIC=574 THEN UICEFF01=-1;
IF UIC=604 THEN UICEFF02=1; IF ((UIC NE 604) AND (UIC NE 574)) THEN UICEFF02=0; IF UIC=574 THEN UICEFF02=-1;
IF UIC=603 THEN UICEFF03=1: IF ((UIC NE 603) AND (UIC NE 574)) THEN UICEFF03=0; IF UIC=574 THEN UICEFF03=-1;
IF UIC=602 THEN UICEFF04=1: IF ((UIC NE 602) AND (UIC NE 574)) THEN UICEFF04=0; IF UIC=574 THEN UICEFF04=-1;
IF UIC=601 THEN UICEFF05=1: IF ((UIC NE 601) AND (UIC NE 574)) THEN UICEFF05=0: IF UIC=574 THEN UICEFF05=-1:
IF UIC=600 THEN UICEFF06=1: IF ((UIC NE 600) AND (UIC NE 574)) THEN UICEFF06=C; IF UIC=574 THEN UICEFF06=-1;
IF UIC=599 THEN UICEFF07=1: IF ((UIC NE 599) AND (UIC NE 574)) THEN UICEFF07=0; IF UIC=574 THEN UICEFF07=-1;
IF UIC=598 THEN UICEFF08=1: IF ((UIC NE 598) AND (UIC NE 574)) THEN UICEFF08=0; IF UIC=574 THEN UICEFF08=-1;
IF UIC=591 THEN UICEFF09=1: IF ((UIC NE 591) AND (UIC NE 574)) THEN UICEFF09=0; IF UIC=574 THEN UICEFF09=-1;
IF UIC=590 THEN UICEFF10=1: IF ((UIC NE 590) AND (UIC NE 574)) THEN UICEFF10=0; IF UIC=574 THEN UICEFF10=-1;
IF UIC=589 THEN UICEFF11=1: IF ((UIC NE 589) AND (UIC NE 574)) THEN UICEFF11=0; IF UIC=574 THEN UICEFF11=-1;
IF UIC=588 THEN UICEFF12=1: IF ((UIC NE 588) AND (UIC NE 574)) THEN UICEFF12=0; IF UIC=574 THEN UICEFF12=-1;
IF UIC=587 THEN UICEFF13=1: IF ((UIC NE 587) AND (UIC NE 574)) THEN UICEFF13=0; IF UIC=574 THEN UICEFF13=-1;
IF UIC=586 THEN UICEFF14=1: IF ((UIC NE 586) AND (UIC NE 574)) THEN UICEFF14=0; IF UIC=574 THEN UICEFF14=-1;
IF UIC=576 THEN UICEFF15=1: IF ((UIC NE 576) AND (UIC NE 574)) THEN UICEFF15=0; IF UIC=574 THEN UICEFF15=-1;
IF UIC=575 THEN UICEFF16=1: IF ((UIC NE 575) AND (UIC NE 574)) THEN UICEFF16=C; IF UIC=574 THEN UICEFF16=-1;
CERTAIN UN-LABELLED VARIABLES ARE
                                                                      NOW GIVEN LABELS.
```

```
IABFI
SERVICE =NUMBER CF DAYS SINCE COMMISSIONING
PREWENTY=IP SHIP WAS WITHIN WARRANTY PERIOD
UICEFF01=DD979--CCNOLLY
UICEFF02=DD978--STUMP
UICEFF03=DD977--FISCOE
UICEFF04=DD976--HERRILL
UICEFF05=DD975--C**BRIEN
UICEFF06=DD974--CCMTE DE GRASSE
UICEFF07=DD973--J YOUNG
UICEFF08=DD972--CIDENDORF
```

UICEFF09=DD971--L. R. RAY
UICEFF10=DD970--CARON
UICEFF11=DD969--FITERSON
UICEFF12=DD968--A. W. RADFORD
UICEFF13=DD967--EILIOT
UICEFF14=DD966--EEWITT
UICEFF15=DD965--KINKAID
UICEFF16=DD964--F. F. FOSIER
DEFFIT=DEPLOYED CUARTERS
UFILI++=PERCENT FIRST CLASS AND ABOVE ONBOARD
OVERHAUL=OVERHAUL QUARTERS, WITH C5 QUARTER AS 1;

REGRESSICN EQUATIONS ARE NOW RUN FOR EACH RATING, EACH DEPENDENT VARIABLE AND ALL THE INDEPENDENT VARIABLES.

FROC REG DATA=COMBO SIMPLE; MODELK1--T=

UICEFF01--UICEFF16 SERVICE PREWRNTY OVERHAUL DEPFIT HSDG+++
AFOT+++ FNAGE+++ PRAGE+++ PAYGR+++ YRACD+++ TMEGR++UFILL+++
LFILL+++;

CUTPUT CUT=EXPECTED P=PK1 FK2 PK3 PK4 PINDEX01 PMEMRAC FPRSCSF FIECHASS PM FS PT;

TITLE READINESS REGRESSIONS FOR THE +++ RATING-EIC DEFIOY T IT 2000;

FROC SORT DATA = EXPECTED; BY QUARTER;

FROC MEANS NOPRINT : EN QUARTER: VAR UFILL+++ LFILL++K1 K2 K3 K4 INDEX01 MEMRAC PRECAUSE TECHASS M S T PK1 PK2 PK3 PK4 FINDEX01 PMEMRAC PPRSCSE PTECHASS PM PS PT;

APPENDIX B AWALYSIS MODELS

READINESS REGRESSIONS FOR THE ET RATING

SOURCE IN THE SOURCE IN T	SUM SCUAL 942- 58 3011- 37 3954- 5E 2-900 5AN 3-610	OF RES 761 868 629 524 572 094	NUMBER OF SQUARE 32.508992 8.413039 R-SQUARE ADJ R-SQ	CASREPS F VALUE PROB>F 3.864 0.0001 0.2384 0.1767
VARIABLE I	PARAME' CF ESTIM	rer Ate	STANDARD ERROR	T FOR HO: PARAMETER=0
F1234567890123456 YL CFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	######################################	5574434 55674434119588549045711555876434 667743354904571155587671434 677635714395887671434 6776357143957143957652878434	ER 483311514095432697351470828973151409548668973524942170888597575709731326977110982892	1403104170990975289727914137906
DED GREETING	P. F7	TOTAL	NUMBER OF	C-2 CASREPS
SOURCE IN MODEL ERRCE 35 C TCTAL 38	SUM SCUAL 8 40.0 29 8 40.0 27 35 66.0 35 66.0 31 1520 87 .540	RĒS 956 972	MEAN SQUARE 28.967446 7.614448	F VALUE PROB>F 3.804 0.0001
FOCT MS CEP ME C.V.	5E 2.759/ AN 3.1520 87.54	129 062 362	R-SQUARE ADJ R-SQ	0.2356 0.1736
	PARAME!		STANDARD	T FCR HO:

```
VARIABLE
                                                                ERROR
                    CF
                                 ESTIMATE
                                                                             PARAMETER=0
                                                  3940188396450234498289965183447
284157403206088245662914134853390
2820174752503885566291413485399147
021101003201031010252001012000
                     1
DEP VARIABLE:
                           K4
                                            TOT AL
                                                        NUMBER OF
                                                                          C-4 CASREPS
                                                          MEAN
SQUARE
0.088946
0.058819
                                     SUM OF
SOURCE DF MODEL 29 ERRCE 358 C TOTAL 387 FOCT MSE DEP MEAN C.V.
                               SUM OF
SCHARES
2.057167
21.057167
23.636598
0.242526
0.059278
                                                                           F VALUE
1.512
                                                                                          PROB>F
0.0464
                                                          R-SQUARE
ADJ R-SQ
                                                                                       0.1091
                               PARAMETER
ESTIMATE
                                                          STANDARD
ERROR
                                                                             T FOR HO:
PARAMETER=0
VARIABLE
                    CF
                           1111
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AFQIET
ENAGEET
PRAGEET
YRACTET
YRACTET
TMEGRET
UFILLET
LFILLET
                                                 0.002680304
-0.042732
-0.0081334
0.001442058
-0.00051568
0.0003653651
-0.000448592
                                                                                              0.002949814
0.024366
0.014592
0.032425
0.020003
0.00236473
0.0004619287
0.0006285326
                                                                                                                                                               0.909
-1.754
-0.554
1.243
-0.218
0.800
-0.714
    DEP
                                                                                              LOG-TRANSFORMED
                      VARIABLE:
                                                               INDEXO1
                                                                                                                                                         READINESS
                                                                                                                                                                                               INDEX
   (NPS)
                                                           SDM OF
SCDARES
48.388533
193.058
241.446
0.734348
0.756650
97.0525
                                                                                                           MEAN
SQUARE
1.668570
0.539267
                                    29
358
387
     SOURCE
                                                                                                                                          F VALUE PROB>F 3.094 0.0001
    MODEI
ERROF
           TOTAL 387
FCCI MSE
DEP MEAN
C. V.
                                                                                                           R-SQUARE
ADJ R-SQ
                                                           PARAMETER
ESTIMATE
                                                                                                           STANDARD
ERROR
                                                                                                                                                  T FOR HO:
    VARIABLE
                                       LF
                                              ERR OR

2.017287582
0.1723768
0.1723768
0.17851358
0.17851358
0.168896411
0.168896411
0.15964412
0.15964412
0.15964412
0.1596459
0.165997
0.1697341879
0.089734779
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   603044314538525205869653991020
94103561185464297482044753358630
931902014121869250194087828926
0200024000240001340001002010
                                          1111
   PAYGEET
YRACLET
TMEGRET
UPILLET
LFILIET
   DEP VARIABLE:
                                                          PRSCAUSE TOTAL OF
                                                                                                                          PRESUMED PERSONNEL-EASED
CAUSES
                                                                                                          MEAN
SQUARE
3.480504
1.333478
                                                                      SUM OF
                                                             SUM OF
SCUARES
107-335
477-335
578-320
1-154763
0-798969
144-5316
                                  29
358
387
  SOURCE
MODEL
ERROR
                                                                                                                                        F VALUE PROBSF
2.610 0.0001
         TOTAL 387
FCCI MSE
CIP MEAN
C.V.
                                                                                                          R-SQUARE
ADJ R-SQ
                                                                                                                                                              0.1745
                                                         PARAMETER
ESTIMATE
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ERROR
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PARAMETER=0
   VARIABLE
                                     CF
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342313165204636865395982907231
185897705355516881288855395982907231
185878700586061806655698463143
111111000301122000131000201201
   DÉPFIT
HSDGET
  AFOGET
AFOGET
ENAGEET
PRAGEET
YRACLET
TMEGRET
UFILLET
  DEP
                     VARIABLE:
                                                                TECHASS
                                                                                                NUMBER
                                                                                                                                                                                  ASSISTANCE
                                                                                                                            OF
                                                                                                                                           TECHNICAL
REQUESTS
                                                           SUM OF
SCUARES
81.342471
530.750
612.093
1.217597
0.840206
144.9165
                                                                                                              MEAN
SQUARE
2.804913
1.482543
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29
358
387
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1.892 0.0043
   SOURCE
 MODEL 29
ERROR 358
C TCTAL 387
FOOT MSE
DEF MEAN
C.V.
                                                                                                              R-SQUARE
ADJ R-SQ
                                                                                                                                                                    0.1329
0.0627
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ESTIMATE
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ERROR
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PARAMETER=0
   VARIABLE
                                       CF
                                                20.4121028641

-0.157362440

-0.157364705672

-0.12764705672

-0.12764705672

-0.12764705672

-0.12765267320668

-0.12765273206688

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                                                                                               3884063758534713020320
84494259558806937499550
01010100001200000001310
                                                                                                                                                                       0.828
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0.014809
0.122331
0.073256
0.162787
0.100425
0.011872
0.02319103
0.003155535
              AFOTET
ENAGGEET
PRAGGEET
YRACCET
TMEGGEET
UFILLET
LFILLET
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-0. 273075
0. C74675
-0. C91483
-0. 120069
-0. 024314
-0. 0019109
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2.232
1.019
0.562
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-1.196
-2.048
-0.824
              DEP VARIABLE:
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SCUARES
57592221
282231688
887.907
695.369
127.6886
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SQUARE
1999733
788378
            SOURCE DP
MODEL 29
ERRCE 358
C TOTAL 387
FOOT MSE
LIP MEAN
C.V.
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2.537
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0.0001
                                                                                                                                                                                                                                                                           R-SQUARE
ADJ R-SQ
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                                                                                                                                                    PARAMETER
ESTIMATE
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PARAMETER=0
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ERROR
              VARIABLE
                                                                                                     CF
             23212.442533397117164351808937171725739971716435739971716435739971712.44799437379737373637977171643516089374773716435160893747737251862477373646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136460813646081364608136
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-1.7188
-0.1887
-0.3274
2.0579
             1.349
0.121
0.345
1.790
0.582
1.033
SOURCE
MODEL
ERRCE 3
C TOTAL 36.
GOOT MSE
CIP MEAN
C.V.
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MEAN
SQUARE F VALUE PROB>F
5402185 3.357 0.0001
1609346
                                                                                                                                                                                                                TOT AL
              DEP VARIABLE: S
                                                                                                                                                                                SUM OF
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SCUARES
1566145993
732809344
1268-600
1222-902
103.7369
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0.1501
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ADJ R-SQ
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PARAMETER=0
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SUM OF
          SOURCE CF
MODEL 258
ERRCE 358
C TOTAL 387
ECOI MSE
CEP MEAN
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3.340
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0.0001
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ADJ R-SQ
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ESTIMATE
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ERROR
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PARAMETER=0
                 VARIABLE
                                                                                                                                                                                                                                                         CF
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3981-36804
-8.3688910
-8.266.88930
-1.167.881370
-6.167.8915
-6.1881370
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23...2730693581
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23111
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80390921503731431223222028
8039092150241805260274558
020102003202031010351000
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PRAGEET PAYGEET YRACEET THEGEET UFILLET LPILLET	111111	- - - 1	9363 305-3 234-5 6765 1419	68 39 62 33	105.6 234.7 144.7 171.71 3.3436 4.5496	05 92 15 74	0.312 1.301 -1.620 0.342 0.880
	READI	n es s	REGR	ESSION	S FOR T	HE FI	G RATING
DEP VARIA	ABLE:	K 1	SUM	TOT AL	NUMBER ME	AN	SREPS

SOURCE OF NODEL 29 ERRCR 356 C TCTAL 385 FOOT MSE DEF MEAN C.V. SCUARES 186-351 679-641 865-992 1-381703 1-463731 94-39602 SQUARE 6.425900 1.909104 F VALUE PROE>F 3.366 0.0001 R-SQUARE ADJ R-SQ 0.2152 PARAMETER ESTIMATE STANDARD ERROR T FOR HO: PARAMETER=0 VARIABLE ERROR 2.3333668 2.349748 2.349748 2.3457499488 2.3313758483578 2.3313756488478 2.331375699488 2.3313885128873188 2.33188317873 2.3318873 2.331 ECOCOCOCOCOCO WAS PODE SPARMENT OF THE PROPERTY OF THE PROPERT 9533784439930305236012737500996 6532465527590019903987519918166615 653206050398751991816615 100001101302000202125012000002 SOURCE MODEL ERRCE 3EC TOTAL 3EC FOCT MSE DIP MEAN C.V. NUMBER OF C-2 CASREPS MEAN SQUARE F VALUE PRO 2.538535 1.237211 K2 TOT AL SUM OF SUM OF SCUARES 73.617516 440.447 514.065 1.112300 1.C49223 106.0118 F VALUE PROB>F 2.052 0.0014 R-SQUARE ADJ R-SQ PARAMETER ESTIMATE STANDARD ERROR T FOR HO: PARAMETER=0

```
1.290
1.697
-0.536
-0.833
20494893

7773894493

777389448978260

-0.296749783331297684397886270333312778

-0.11412831033312778

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1451844334416654599113347183150
145404654599113347183150
161002020011000140010000001
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  DEP VARIABLE:
                                                                                                                                                                                                                                                                        TOTAL NUMBER OF
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SCMARES
5 0. 927820
191.002
241.930
0.732477
0.391192
187.2426
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SQUARE
1.756132
0.536523
SOURCE
MODEL
ERROR
C TOTAL
RCOI
LIF
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356
385
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3.273
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MĒĀN
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ADJ R-SQ
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ESTIMATE
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ERROR
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   VARIABLE
                                                                                                                     CF
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1.71693269
-0.275161996
-0.37793694440
-0.3779318984240
-0.494086643
-0.1992896643
-0.199289669
-0.19987583
-0.199875834
-0.248188769
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-0.00614016

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0.007468858

0.0006 C54162

0.003017432
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0.048267
0.106823
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0.006100585
0.001275503
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           ENAGEFIG
PRAGEFIG
PAYGEFIG
           YRACDFIG
TMEGRFIG
UFILIFIG
LFILIFIG
           DEP
                                                                                             VARIABLE:
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RCF 356
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FCCI MSE
CIP MEAN
C.V.
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                                                                                                                                                                                                                                                                              SCM OF
SCUARES
11.373590
48.582002
59.955592
0.369413
0.324654
113.7867
            SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SQUARE
0.392193
0.136466
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           MODEL
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ADJ R-SQ
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ESTIMATE
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ERROR
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8081094021036553751933665921214299

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2000110001010133412300001102
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         YRACEFIG
TMEGRFTG
UFILLFIG
           LPILIFTG
                                                                                                                                                                                                                                                                                                    MEHRAC
       DEP
                                                                                             VARIABLE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              READINESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INDEX
(SPCC)
                                                                                                                                                                                                                                                                                                SUM OF
SCUARES
1073.451
3236.391
4309.842
3.015126
1.691391
178.2631
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SQUARE
37.015559
9.090986
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356
355
MSE
MEAN
           SOURCE
MODEL
ERROR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F VALUE PROE>F
4.072 0.0001
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ADJ R-SQ
                                                                                                                                             M
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ESTIMATE
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         VARIABLE
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REQUESTS
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SCUARES
22.398340
131.138
153.536
0.606931
0.303109
200.2353
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              SOURCE
MODEL
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356
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MSE
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2.097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRCB>F
0.0010
                                                                       TOTAL 365
FCCI MSE
DEP MEAN
C.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.1459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               PARAMETER
ESTIMATE
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ERROR
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PARAMETER=0
                    VARIABLE
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68251179882868076541873936
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0.058860
0.039994
0.088514
0.045998
0.005054945
0.001056882
0.001135352
                                                                                                                                                                                                                                                                                                                                                  -0.458
0.507
-1.175
0.765
1.026
-1.889
ENAGEPTG
PRAGEFTTG
PAYGEFTG
YRACCPTG
TMEGRFTG
UPILLIFTG
LFILLIFTG
                                                                                                        -0.026970

0.020272

-0.103962

0.035190

0.005184779

-0.00199654

0.001759024
                                                                                                                                                                             TOTAL HOURS DOWNTIME DUE TO SUPPLY
 DEP VARIABLE:
                                                                                                                         SUM OF
SCUARES
44562612
202501514
247064126
754.205
580.855
129.8439
                                                                                                                                                                                                                                           NEAN
SQUARE
1536642
568824
                                                                   2565
385
MSE
                                                                                                                                                                                                                                                                                                    F VALUE PROB>F
2.701 0.0001
  SOURCE
 MODEI
ERRCR
               TCTAL 385
FOOT MSE
DEF MEAN
C.V.
                                                                                                                                                                                                                                                                                                                                                   0.1804
                                                                                                                                                                                                                                  R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                               T FOR HO:
PARAMETER=0
                                                                                                                         PARAMETER
ESTIMATE
                                                                                                                                                                                                                                   STANDARD
ERROR
 VARIABLE
                                                                              CF
                                                                                                                  1491.578845578865289933122105543229488

1491.678.652899312210543229488

17701.6662.699331643229488

17701.69933164997488

17701.69933164997488

17701.6993316997488

17701.8130

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TOTAL HOURS DOWNTIME
OF MEAN
ES SQUARE F VAI
08 2365755 2.9
   DEP VARIABLE:
                                                                                                                           SUM PER SCUAR PS 686C6908 289317383 357524291 901-493 822-596 109-5912
                                                                       29
3565
385
MSE
  SOURCE
MODEL
ERRCE
                                                                                                                                                                                                                                                                                                       F VALUE
                                                                                                                                                                                                                                                                                                                                                                              PROE>F
0.0001
              ROTAL SEE FOOT MSE FOOT MEAN
                                                                                                                                                                                                                                     R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                      0.1917
0.1258
                                  ČEP
C.V.
                                                                                                                          PARAMETER
ESTIMATE
                                                                                                                                                                                                                                      STANDARD
                                                                                                                                                                                                                                                                                                                T FOR HO:
PARAMETER=0
   VARIABLE
                                                                               CF
                                                                                                                                                                                                                                                             ERROR
                                                                                                                                                                                                                                      1755.949
228.966
                                                                                                                                   2701.961
188.726
                                                                                                                                                                                                                                                                                                                                                              1.539
    INTERCEP
UICEFF01
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2345678901123456 FFF00001111111111111111111111111111111	717777777777777777777777777777	-61-23188861 -231889-4573788861-23189-13657948861122443348861-23189-136579488622661-231345877287-7-28-2-28-2-28-2-28-2-28-2-28-2-28-2-28-2-28-2-28-2-28-28	20139.5.2.7.3.9.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	42309825300185348868579486 21583170641001853488688579486 211551770641071853488688579486 211011010167718283638683598 211011010101677182422158815598 211011010101010101010101010101010101010
	1 1 1	74.587545	68.322607 7.508264 1.569819 1.686372	1.098 -0.086 -0.059 2.404

READINESS REGRESSIONS FOR THE FIM RATING

DEP VARIAE	LE: K1	TOT AL	NUMBER OF	CASREPS
SOURCE MODEL ERRCE 3 C TOTAL 3 FCCI M CIP ME C.V.	DF S 29 60. 39 33 68 3 SE 0. AN 0.	SUM OF CUARES 159121 35.798 995265 99526938 9.7713	MEAN SQUARE 2.074452 0.990553 R-SQUARE ADJ R-SQ	F VALUE PROBSE 2.094 0.0011
VARIABLE	PAR.	AMETER	STANDARD ERROR	T FOR HO: PARAMETER=0
F12345678901123456 YI RPF000000000000000000000000000000000000		012433 179139 0179139 017960447 013165794 1124788 1124788 1124788 112294938 112294938 112279337 1222294317 12222947 122229 122229 122229 122229 122229 122229 122229 122229 122229 122229 122229 122229 122229 122229 1	1.243839884 7.243839884 0.2248839884 0.222480481500133864 0.22248048162009 0.222243048162009 0.22222222204336599 0.22222043365999 0.2222043365999 0.2222043365999 0.2222063365999	86637276671643959717861 57144055322227871412301557 0000000000000000001003130001

```
ENAGEFTM
PRAGEFIM
PAYGEFIM
YRACCFTM
TMEGRFTM
UFILLFIM
LFILLFIM
                              -0. C68020
0. 110762
-0. 120636
-0. 155460
0.007895678
-0.000884864
-0.00380949
                                                            0.086593
0.074375
0.131109
0.087287
0.008931143
0.002128627
0.001842926
                                                                                                  -0.786
1.489
-0.920
-1.781
0.884
                                                                                                  -0.416
-0.207
SOURC.
MODEL
ERROR
C TCTAL
ROOT
DEF M
   DEP VARIABLE: K2
                                                   TOTAL NUMBER OF C-2 CASREPS
                                    SUM OF
SUMARES
SUMARES
54.6541379
3200.233
0.885109
0.604336
146.4598
                                                                  MEAN
SQUARE
1.884625
0.783419
                     2799
3768
MSE
                                                                                     F VAL
2.406
                                                                                         VALUE PROBSE
                                                                                                       0.0001
                                                                  R-SQUARE
ADJ R-SQ
                                                                                                   0.1707
                  MEAN
                                    PARAMETER
ESTIMATE
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                                                                                          T FOR HO:
                                                                                        PARAMETER=0
                             ERROR
  VARIABLE
                        CF
                                                          -0.418
                                                                                                  -1.604
-1.399
-0.146
-0.430
-0.248
                          111
  YRACDFIM
TMEGRFIM
UFILLFIM
LPILLFIM
             VARIABLE:
                                       INDEX01
                                                          LOG-TRANSFORMED
  DEP
                                                                                              READINESS
                                                                                                                      INDEX
 (NPS)
                                    SUM OF
SCUARES
3.5556042
22.826097
26.762138
0.259487
0.167338
155.0674
                                                                           MEAN
                      29
339
368
MSE
                                                                  SQUARE
0.136415
0.067334
                                                                                     F VALUE PROB>F
2.026 0.0018
   SOURCE
  MODEL
  ERROF
      TOTAL 368
FOCT MSE
DEF MEAN
C.V.
                                                                  R-SQUARE
ADJ R-SQ
                                                                                                   0.0748
                                    PARAMETER
ESTIMATE
                                                                                        T FCR HO:
PARAMETER=0
                                                                  STANDARD
   VARIABLE
                        CF
                                                                         ERROR
                                    -0.117732
                                                                   0.456487
   INTERCEP
                          1
                                                                                                   -0.258
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-0.014783652990
-0.0158837430684313889920
-0.01588388920799465383889920
-0.01599465431386025313446832079994653134468320799946585313449933
-0.01588832079902549985549992
-0.014783650177015891000011792549992
     11111
         DEP
                                                                      VARIABLE:
                                                                                                                                                                                                                                                                                                                                             TOTAL
                                                                                                                                                                                                                                                                                                                                                                                                                                           HOURS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOWNTIME
                                                                                                                                                                                                                      M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TO
MAINTENANCE
                                                                                                                                                                                                                 SUM OF
SCUARES
8269633
47908263
56177896
375.929
150.233
250.2303
                                                                                                                                                                                                                                                                                                                                                                                                         MEAN
SQUARE
285160
141322
                                                                                                                   DF
29
339
368
MSE
       SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F VALUE PROB>F 2.018 0.0019
         ERRCE
                           TOTAL 368
ROOT MSE
LEP MEAN
C.V.
                                                                                                                                                                                                                                                                                                                                                                               R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0.1472
                                                                                                                                                                                                       PARAMETER
ESTIMATE
                                                                                                                                                                                                                                                                                                                                                                               STANDARD
ERROR
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PARAMETER=0
          VARIABLE
                                                                                                                                                                                          71.1844

71.2732231

71.1984731

71.1984731

71.4984731

30.1242823

-24.49920

-36.49723

-36.49723

-36.49733

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6682526666317819969122
9589432906336981281996336588
977290063369812819963365888
9857-9554349490896336588
9857-9554336588
9857-772270
9857-73332
32
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76.537781
-119.024
-34.490445
-4.668214
-0.548390
-0.191965
                                                                                                                                                                                                                                                                                   28.092511
49.522133
32.969739
3.373444
0.804018
0.696104
                                                                                                                                                                                                                                                                                                                                                                                                                                        2.724
-2.403
-1.046
-1.384
-1.180
-0.276
   PRAGEFTM PAYGEFTM YRACLFTM TMEGEFTM UPILLFTM LFILLFTM
                                                                                                                                                                   TOTAL HOURS DOWNTIME DUE TO SUPFLY SUM OF MEAN SQUARES SQUARE F VALUE PROBSE 11056247 381250 1.499 0.0505 86218344 254331 97274591 504.313 R-SQUARE 0.1137 274.060 ADJ R-SQ 0.0378 184.0157
    DEP VARIABLE: S
                 DEI CF
RROB 359
TCTAL 368
FOOT MSE
CFF MEAN
    SOURCE
MODEL
ERROR
                                                                                                                                                         PARAMETER
ESTIMATE
                                                                                                                                                                                                                                                                                            STANDARD
ERROR
                                                                                                                                                                                                                                                                                                                                                                                           T FOR HO:
PARAMETER=0
    VARIABLE
                                                                                                   CF
                                                                                                                                               9148855774

-23.155747

-23.15531255

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-25.15531255

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-28.19557799

-10.1101886

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0210054054592506780550505050504715
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ES SQUARE F VAI
194 98 98 76 1.96
    DEP VARIABLE:
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SCUARS
28706399
170543291
1795249684
7059-280
424-293
167-1675
MODEL 29
ERRCE 339
C TCIAL 368
FCCI MSE
LEP MEAN
C.V.
                                                                                                                                                                                                                                                                                                                                                                                                    VALUE PROBSE
968 0.0027
                                                                                                                                                                                                                                                                                              R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                                                            T FOR HO:
PARAMETER=0
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ESTIMATE
                                                                                                                                                                                                                                                                                              STANDARD
ERROR
    VARIABLE
                                                                                                    CF
                                                                                                                                                  1004.503
96.931235
-87.083269
                                                                                                                                                                                                                                                                                              1247.757
173.354
175.950
    INTERCEP
UICEFF01
UICEFF02
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34567890123456 YI 00000000123456 YI FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	111111111111111111111111111111111111111	76599914659991465999146681114619956499564995649956499569956995699569959795697956	169.8481323040172311411411411566.1766881457641571668815916445710877088811771031141141988844576130	70876336036990404840157724131942888809820388747324 0000100110000312000112000011200001120000112000011200001120000112000011200001120000112000011200001120000112000011200001120000112000011200001120000112000000
AFOIFTM	1 1 1 1 1 1 1 1	5.377812	6.172147	0.871
ENAGEFTM		-94.749647	61.710856	-1.535

READINESS REGRESSIONS FOR THE DS RATING

DEP VARIABLE	CUM UB	TAL NUMBER OF MEAN	CASREPS
SOURCE DE MODEL 29 ERROR 357 C TCTAL 386	55.500 RES 55.500 RES 55.500 98 316.257 371.907 6 0.941209 0.682171 137.9726	SQUARE 1.918969 0.885874	F VALUE PROBSE 2.166 0.0006
ROOT MSE DEF MEAN C.V.	0.941209 0.682171 137.9726	R-SQUARE ADJ R-SQ	0.1496 0.0806
VARIABLE CE	PARAMETER ESTIMATE	STANDARD ERROR	T FOR HO: PARAMETER=0
UICEFF16 SERVICE PREWENTY OVERHAUL DEPFLI HSDGDS	-0.13316585 -0.13316585879590 -0.13370208679590 -0.1337020867979467990 -0.134043196679490 -0.13404319679929169797297299169797297299169797047887997091697970916979709169797091697970916979709169709709709709709709709709709709709709709	2.000000000000000000000000000000000000	9677396662478678076778336 2888671999121239735037226336

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0.065471
-0.00 87 1032
-0.00 119979
-0.00 252799
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0.170677
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0.009543255
0.001475827
0.002776934
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0.384
-0.123
-0.126
-1.713
0.564
   PRAGEDS
PAYGEDS
YRACDDS
TMEGRDS
UFILIDS
  DEP VARIABLE:
                                                                                                                                                                   TOTAL NUMBER OF
                                                                                                                                                                                                                                                                              C-2 CASREPS
                                                                                                K2
                                                                                                                 SUM OF SU
                                                                                                                                                                                                                    MEAN
SQUARE
1.692522
0.798926
  SOURCE
                                                                  29
357
386
                                                                                                                                                                                                                                                                                          VALUE
2.118
                                                                                                                                                                                                                                                                                    F
                                                                                                                                                                                                                                                                                                                                                  PROB>F
                                                                                                                                                                                                                                                                                                                                                   0.0009
MODEL 357
ERROF 357
C TCTAL 386
FOCI MSE
CIP MEAN
C.V.
                                                                                                                                                                                                                    R-SQUARE
ADJ R-SQ
                                                                                                                 PARAMETER
ESTIMATE
                                                                                                                                                                                                                                                                                         T FCR HO:
PARAMETER=0
                                                                                                                                                                                                                    STANDARD
   VARIABLE
                                                                         CF
                                                                                                                                                                                      ERROR
                                                                                           0.183
-2.388
0.899
                                                                                                                                                                                                                                                                                                                           3185843634870816915064931081
34941753853593246370153518508
319417753853593246370153515506
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  DEP
                                      VARIABLE:
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                                                                                                                                                                                                                                                                                                                                                                                              INDEX
(NPS)
                                                                                                                                                                                                                    MEAN
SQUARE
0.165907
0.084068
                                                                                                                                          SUM OF
  SOURCE
MODEL
ERRCE
C TOTAL
FCCT
DEP 1
C.V.
                                                                                                                   SCHARES
4.811306
30.012291
34.823597
0.2899945
0.172177
168.3989
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357
386
                                                                                                                                                                                                                                                                                  F VALUE
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0.0025
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ADJ R-SQ
                                                                                                                                                                                                                                                                                                                             0.1382
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ESTIMATE
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   VARIABLE
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   INTERCEP
UICEFF01
                                                                                                                   -0:597723
-0:123000
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0.064444
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             READINESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INDEX
                                                                                                       VARIA ELE:
                                                                                                                                                                                                                                                                                                                               SUM OF
SCUARES
67.707427
505.958
571.665
1.190482
0.300506
396.1599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEAN
SQUARE
2.334739
1.417248
      SOURCE
MODEL
ERRCE
C TOTAL
FCOI
LEP !
                                                                                                                                                           CF
29
357
386
MSE
MEAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F VALUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROB>F
0.0209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0.1180
                                                                                                                                                                                                                                                                                                                               PARAMETER
ESTIMATE
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ERROR
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PARAMETER=0
            VARIABLE
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0.215879
0.089424
0.012071
0.001866692
0.00351239
                              -0.130961
0.066495
0.010893
0.0004502995
0.005302421
                                                                                                     -0.607
0.744
0.902
0.241
1.510
  PAYGEDS
YRACIDS
TMEGEDS
UFILIDS
LFILIDS
                                     PRSCAUSE TOTAL OF
                                                                               PRESUMED PERSONNEL-EASED
   DEP VARIABLE:
 CAUSES
SOURCL
MODEL
ERRCE
C TOTAL 36
FCCT MSE
DEP MEAN
C.V.
                                     SUM OF
SCUARES
11.198159
77.132590
88.330749
0.464820
0.219638
211.6298
                                                                    SQUARE
0.386143
0.216058
                                                                                          F VALUE
1.787
                                                                                                     0.1268
0.0558
                                                                    R-SQUARE
ADJ R-SQ
                                                                                          T FOR HO:
PARAMETER=0
                                      PARAMETER
ESTIMATE
                                                                     STANDARD
ERROR
                               1.613
0.715
0.904
    AFCIES
ENAGEES
                                                                                                        0.670
0.919
   PRAGEDS
PRAGEDS
PRACEDS
YRACEDS
THEGEDS
UPILIDS
LPILIDS
                            1111
                                                                                                        0.048
0.136
0.059
                                                                                                       -1.156
2.092
                                                                                                               ASSISTANCE
                                         TECHASS
                                                             NUMBER
                                                                              OF
                                                                                       TECHNICAL
    DEP VARIABLE:
  REQUESTS
                                                                     MEAN
SQUARE
0.716307
0.341367
       DÉI 29
RRCF 357
TCIAL 366
FOOI MSE
DEP MEAN
C.V.
                                              SUM OF
                                       SCUARES
20.772912
121.868
142.641
0.584266
0.260982
223.8722
                                                                                           F VALUE PROB>F
2.098 0.0010
    SOURCE
    MODEL
ERRCE
                                                                     R-SQUARE
ADJ R-SQ
                                                                                                      0.1456
                                       PARAMETER
ESTIMATE
                                                                      STANDARD
ERROR
                                                                                                 FOR HO:
                                                                                            PARAMETER=0
    VARIABLE
                          CF
                                                                      1-432674
                                                                                                      -0.709
-1.539
                                       -1.016186
-0.273653
    INTERCEPUICEFF01
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0.14544823
0.145483733
0.145443593
0.14363226001
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0.133632243507
0.1331336644821
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0.0091623
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157771775360830°68540828718299
2457779765557824067936828718299
1000020241222532611223122336
112231222336
11000010002022033
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                                                                                                                                                                                                                                                                                                                                                                           1111
       DEP VARIABLE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HOURS DOWNTIME DUE TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUPPLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUM OF
SUM AES
SCIA46294
103346294
95132163
487.369
2210.4336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEAN
SQUARE
356367
237528
   SOURCE DF
MODEL 29
ERRCE 357
C TOTAL 386
EOOI MSE
LEP MEAN
C.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P VALUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0.1086
0.0362
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ESTIMATE
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ERROR
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PARAMETER=0
              VARIABLE
                                                                                                                                                                                                                                                                                                                                                  CF
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YRACIDS 1 THEGEDS 1 UPILIDS 1 LFILIDS 1	39.557572 -5.794015 -1.545428 1.098127	36.609088 4.941607 0.764200 1.437928	1.081 -1.172 -2.022 0.764
DEP VARIABLE: SOURCE DF MODEL 29 ERRCR 357 C TCTAL 386 ROOT MSE CEF MEAN C.V.	TOTAL SUM OF SQUARES 25055067 174991221 200046288 700.122 415.708 168.4169	HOURS DOWN MEAN SQUARE 863968 490171 R-SQUARE ADJ R-SQ	TIME P VALUE PROE>F 1.763 0.0101 0.1252 0.0542
VARIABLE CF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR HO: PARAMETER=0
TOURIST TOUR TOUR TOUR TOUR TOUR TOUR TOUR TOU	996646200 989646200 989646200 98402120 98402120 98402131 984021 984	171248076763316311121667677541553697541553697541697699	954824597344111341912354694211 887913916214934283042830446426 8958655376638160189830446426 000100011200001130020100000000000000000
REA	DINESS REGRESSION	ONS FOR THE	STG RATING
DEP VARIABLE: SOURCE CF MODEL 29 ERROR 356 C TCTAL 385	K2 TOTAL SUM OF SCUARES 20.268807 164.200 184.469	NUMBER OF MEAN SQUARE 0.698924 0.461236	C-2 CASREPS F VALUE PROBSF 1.515 0.0457
ERROR 356 C TCTAL 385	184.469	0.461236	

PARAMETER ESTIMATE

-8: 918776

R-SQUARE ADJ R-SQ

STANDARD ERROR

1:708023

T FOR HO: PARAMETER=0

0.1099

-0:538

SOURCE CF MODEL 256 ERROR 356 C TCTAL 385 FOOT MSE LFF MEAN C.V.

CF

1

VARIABLE

INTERCER UICEFF01

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0154437226723208796579289841
554285143939001508955058493207
5544440418601743508950584493207
02000100201100000020000100210
                                                             HOURS DOWNTIME DUE TO SUPPLY
MEAN
SQUARE F VALUE PROBSF
175620 1.502 0.0491
116888
 DEP VARIABLE:
                                                  TOTAL
                                          SUM OF
 SOURCE
MODEL
ERROF
C TCTAL
FOOT
DEP N
                    256
356
355
MSE
                                     SCUARES
5092971
41612227
46705198
341-889
145-588
234-8333
                                                                 R-SQUARE
ADJ R-SQ
                                                                                                 0.1090
                MEAN
                                  PARAMETER
ESTIMATE
                                                                STANDARD
ERROR
                                                                                      T FOR HO:
PARAMETER=0
 VARIABLE
                      CF
11111
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YRACESIG	1	-8.107961	32.036753	-0.253
TMEGRSIG	1	12.738330 1.195055	5. 258269 0. 782639	2.423 1.527
UPILLSTG	1			1.527
LFILISTG	1	1.110254	1.324097	0.838

READINESS REGRESSIONS FOR THE IC RATING

DEP VARIA	ABLE:	K 1	TOTAL	NUMBER OF	CASREPS
SOURCE MODEL ERROB C TCTAL ROOT LEF !	DF 259 258 MSE ME AN	SUM SCUAR 6 1.7105 237.0 0.8228 0.6574	OF ES 16 176	MEAN SQUARE 2.127949 0.677127	F VALUE PROE>F 3.143 0.0001
ROOT LIF C.V.	MSE ME AN	0.8228 0.6574 125.1	377 39 64	R-SQUARE ADJ R-SQ	0.2603 0.1775
VARIABLE	CF	PARABET ESTIMA	ER	STANDARD ERROR	T FOR HO: PARAMETER=0
P1234567890123456 YI C00000001123456 YI RFFFF00000011111111 CCCCCCCCCCCCCILILITEFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	1111111111111111111111111111111	2078131765290 420786131765290 420786131765290 20000000000000000000000000000000000	190347333675211412723535430495397 0 00 00 00 00 00 00 00 00 00 00 00 00 0	1-42104404644877339842928837648481292475132227469494040494751348648499227484992883764894992928837648949929288376489499292883764894992928929292929292929292929299999999	918345093444668052532036240083 762639221767625207856729461234 111240200111131100012000110011
DEP VARIA		K2	TOT AL	NUMBER OF	C-2 CASREPS
SOURCE MODEL ERRCE C TCTAL EOCT LEF !	DF 229 259 268 MSE MSE	55.4321 55.4321 154.9 210.3 0.7734 0.6159 125.57	ES 64 35	NUMBER OF MEAN SQUARE 1.911454 0.598203	F VALUE PROB>F 3.195 0.0001
FOCT CEP I	MŠĚ Měan	0.7734 0.6159 125.57	36 17 47	R-SQUARE ADJ R-SQ	0.2635 0.1810
VARIABLE	LF	PAR AMET ESTIM A		STANDARD ERROR	T FCR HO: PARAMETER=0
INTERCEP	1	2.3808	87	1.360153	1.750

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0.1968843

0.19688434

0.19688434

0.19688436

0.196874393

0.190572223310

0.1909373012

0.1909373012

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0.128847

0.100047188447
 95847305613918067968496499192
871382122928721855511201057
1125020010102210112000020010
11250200101010112000020010
  DEP
                          VARIABLE:
                                                                                   INDEXO1
                                                                                                                               LOG-TRANSFORMED
                                                                                                                                                                                                              READINESS
                                                                                                                                                                                                                                                                    INDEX
(NPS)
                                                                             SCM OF
SCUARES
5-651640
18-107128
23-756768
0-264408
0-182942
144-5308
       DEL 29
RECE 259
TCTAL 288
RCOT MSE
CIP MEAN
C.V.
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SQUARE
0.194884
0.069912
 SOURCE
MODEL
ERRCE
C TOTA
                                                                                                                                                                                          F VALUE PROB>F
2.788 0.0001
                                                                                                                                                 R-SQUARE
ADJ R-SQ
                                                                             PARAMETER
ESTIMATE
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PARAMETER=0
                                                                                                                                                 STANDARD
  VARIABLE
                                                  CF
                                                                       ESTIMATE
0.397469
-0.15469733
-0.155651337
0.05651337
0.05663370
-0.1566373744
-0.1566373744
-0.16677371
0.170778
-0.160778
-0.160778
-0.160778
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0.46785121
0.0773150
0.06550904
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0.0665944502
0.06659744543
0.066693388669308229
0.0668822990779
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0.07850779
312767439718295705904783
8182990094861021362867288
9112240212540212254827284
9112240211131100001100001
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-0.013500
-0.055900
0.029091
-0.000933988
0.0004194244
-0.000902599
                                                              0.020637
0.038422
0.026845
0.003083549
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0.0007378984
   PRAGEIC
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UPILLIC
LFILLIC
                                                                                                         -0.654
-1.455
1.084
-0.303
1.178
-1.223
                             1111
   DEP VARIABLE:
                                          TECHASS
                                                              NUMBER
                                                                                OF
                                                                                         TECHNICAL
                                                                                                                  ASSISTANCE
 REQUESTS
                                       SCM OF
SCUARES
11.630195
68.383646
80.013841
0.513838
0.262976
195.3937
                                                                       MEAN
SQUARE
0.401041
0.264030
   SOURCE DF
MODEL 259
ERRCB 259
C TCTAL 268
BOOT MSE
LFP MEAN
C.V.
                                                                                              F VALUE PROE>F
1.519 0.0479
                                                                                                         0.1454
                                                                       R-SQUARE
ADJ R-SQ
                                       PARAMETER
ESTIMATE
                                                                       STANDARD
                                                                                                T FCR HO:
                               VARIABLE
                          CF
                                                                              ERROR
                                                                                              PARAMETER=0
                                                             - 102131100000000000001000110011001
                                                                                                          -2.180
1.103
-0.511
-0.876
-0.203
                                                                                                         -0
   DEP VARIABLE:
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                                                                TOTAL
                                                                                  HOURS
                                                                                                   DOWNTIME
                                                                                                                         DUE
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 MAINTENANCE
SOURCE
MODEL
ERRCR
C TCTAL 25
FCOT MSE
CFP MEAN
C.V.
                                         SUM OF
SCUARES
8 924397
42309472
51233868
404.175
201.685
200.3988
                                                                           MEAN
SQUARE
307738
163357
                                                                                               VALUE PROB>F
1.884 0.0054
                                                                                           F
                                                                                              1.884
                                                                       R-SQUARE
ADJ R-SQ
                                                                                                         0.1742
                                       PARAMETER
ESTIMATE
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                                                                       STANDARD
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                                                                                              PĀRĀMĒTĒŘ=0
                                                                              ERROR
   INTERCEP
                                             154.238
                                                                          710.776
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705229106171522893629975151
03662057086171522893629975151
01121101111000001148220274599854
1110111100000114822027459
111011100000114822027459
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SUM OF
SCUARES
23227793
110487890
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653.142
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162.7561
       DEP VARIABLE:
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       SOURCE
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878
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0.0056
  ERRCE
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FOOT
DFF
C.V.
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ADJ R-SQ
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                                                                                                                                                                                                                                                                                                                                                           PARAMETER
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PARAMETER=0
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       VARIABLE
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14.756538800599579948825766766

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14.5569779023

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2571683703091321225426848805
10122020010111100000
1012202010111100000
```

PAYGRIC	1	-143.925	94-910537	-1.516
YRACDIC	1	-4.015163	66.311707	-0.061
TMEGRIC		1.794744	7.616991	0.236
UFILIIC	1	1.210626	0.879296	1.377
LFILIIC		-0.579173	1.822758	-0.537
TLITIC	•	-0.3/3//3	1.022/30	-0.337

READINESS REGRESSIONS FOR THE EM RATING

DEP VARIABLE: SOURCE DF MODEL 29 ERRCE 259 C TOTAL 288 ECCI MSE DEP MEAN C.V.	SUM OF SCUARES 112.313 551.687 664.000 1.459475 1.294118 112.7776		F VALUE PROB>F 1.818 0.0081
VARIABLE CF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR HO: PARAMETER=0
P1123456 EP12345678901123456 EPFFFF000901123456 TCCCCCCEEFFFF11156 TCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	ESTHATE 1.62713434 1.627162334 1.6271662334 1.62716693245 1.62716693245 1.62716693245 1.62716693245 1.62716693245 1.62716693245 1.62716693245 1.6271669336 1.626669336669336669366936693669366693666	2.787928346 0.367928346 0.367928346 0.367964495 0.3776287886 0.449056449925 0.449056590 0.38696295296590 0.3869629596590 0.38773000727932466784892 0.3877300002880484932 0.387698191910 0.00815790177844432 0.00815790177844432 0.0081793000000000000000000000000000000000000	PĀRĀĒĒĒ 0 75757605936794013280351071987374 -00120230130255248950351071987376 -101202301100100000000000000000000000000
DED GIBLES	ያ ው ጥለብ ነ	AT NUMBED OF	C-2 CASREPS
SOURCE DF MODEL 29 ERROR 259	SCUARES 81.461588 466.566	SOUARE 2.809020 1.801413	F VALUE PROBSF 1.559 0.0383
SOURCE DF MODEL 29 ERROR 259 C TCTAL 288 FOCT MSE DEF MEAN C.V.	1. 342167 1. 166090 115. 0998	R-SQUARE ADJ R-SQ	0.1486 0.0533
VARIABLE CF		STANDARD ERROR	T FOR HO: PARAMETER=0

```
879328123987982151877111579991
61528213536777038641238357583761
6152821353677700386412383575583761
6152821353677700386412383575583761
61528213536774700386412383575583761
  DEP VARIABLE:
                                                                                     TOTAL NUMBER OF
                                                     K3
                                                                                                                                            C-3 CASREPS
                                                          SUM OF
SCUARES
8.513586
45.486414
54.000000
0.419074
0.117647
356.2131
                                                                                                              MEAN
SQUARE
0.293572
0.175623
 SOURCE DP
MODEL 259
ERROR 259
C TCTAL 288
BOOT MSE
DEP MEAN
C.V.
                                                                                                                                                   VALUE
                                                                                                                                              F
1.
                                                                                                                                                                          PROB>F
0.0200
                                                                                                             R-SQUARE
ADJ R-SQ
                                                                                                                                                                    0.1577
                                                           PARAMETER
ESTIMATE
                                                                                                             STANDARD
ERROR
                                                                                                                                                  T FOR HO:
PARAMETER=0
 VARIABLE
                                      CF
                                                 ERROR
0.76569
0.106008
0.1069093
0.10281818
0.102377
0.10636648
0.110599112
0.1088290
0.11088290
0.11284848
0.112848313
0.05683210
0.055883212
0.003540559
0.00354059
355216989360361987138396
633630269893603619878315468
63634450710308392204315468
63634450710308392204315468
63633469893603619878315468
                                        111111
```

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0.025898
0.075148
0.032402
0.004463415
0.001696297
0.0006493113
                                                                                                       -0.062044
-0.082115
0.046582
-0.0080887
0.000551067
00006927328
                                                                                                                                                                                                                                                                                                                      -0.240
-1.093
1.438
-1.812
-0.503
0.107
         PRAGEEM
PAYGEEM
YRACLEM
TMEGFEM
UPILLEM
          DEP
                                             VARIABLE:
                                                                                                                             INCEXO1
                                                                                                                                                                                          LCG-TRANSFORMED
                                                                                                                                                                                                                                                                                                           READINESS
                                                                                                                                                                                                                                                                                                                                                                                       INCEX
       (NPS)
SOURCE
MODEL
ERRCF
C TOTAL 2:
FCCI MSE
DFF MEAN
C.V.
                                                                                                                     SCM OF
SCUARES
13.628837
65.204375
78.833211
0.501751
0.419071
119.7293
                                                                                                                                                                                                                   MEAN
SQUARE
0.469960
0.251754
                                                                                                                                                                                                                                                                               F VALUE PROB>F
1.867 0.0060
                                                                                                                                                                                                                                                                                                                                       0.0060
                                                                                                                                                                                                                    R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                                         0.1729
                                                                                                                     PARAMETER
ESTIMATE
                                                                                                                                                                                                                                                                                        T FOR HO:
PARAMETER=0
                                                                                                                                                                                                                     STANDARD
                                                                                                                                                                                                                                        ERROR
                                                                                                                                                                                        0.123343360
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        AFOTEM
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         enaglen
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Ufillem
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         DEP
                                        VARIA ELE:
                                                                                                                              MEMRAC
                                                                                                                                                                                          LOG-TRANSFORMED
                                                                                                                                                                                                                                                                                                           READINESS
                                                                                                                                                                                                                                                                                                                                                                                       INDEX
                                                                                                                              SUM OF
SCUARE3
169.490
992.633
1.782736
0.514265
346.6574
                                                                                                                                                                                                                   MEAN
SQUARE
5.844571
3.178148
                                                                      DF
229
288
MSE
          SOURCE
                                                                                                                                                                                                                                                                               F VALUE PROB>F
1.839 0.0071
          ERROR
C TCTAL
                                     RÖÖT
LEF M
C.V.
                                                                                                                                                                                                                    R-SQUARE
ADJ R-SQ
                                                            MEAN
                                                                                                                     PARAMETER
ESTIMATE
                                                                                                                                                                                                                     STANDARD
                                                                                                                                                                                                                                                                                               T FOR HO:
           VARIABLE
                                                                                                                                                                                                                                          ERROR
                                                                                                                                                                                                                                                                                         PARAMETER=0
           INTERCEP
                                                                                     1
                                                                                                                             0.686898
                                                                                                                                                                                                                     3.304308
                                                                                                                                                                                                                                                                                                                                0.208
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-0.3203634998
-0.32036349984
-0.32036349984
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-0.32036349984
-0.32036349984
-0.320363499709
-0.3203634999709
-0.3203634999709
-0.00047788994
-0.00047788999709
-0.0004968984
-0.000496899709
-0.000496899709
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-0.000496899709
                                                                                             109277510784006010653871968819
1092724144403847890200122498867726
1000024101100121100111100
11001211100111100
 DEP VARIABLE:
                                                          PRSCAUSE TOTAL OF
                                                                                                                              PRESUMED PERSONNEL-BASED.
                                                             SUM OF
SCUARES
158-7538
158-055
188-055
0-782871
0-474048
165-1458
                                                                                                            NEAN
SQUARE
1.010950
0.612887
                                 259
259
258
MSE
                                                                                                                                                 VALUE
1.649
 SOURCE
 MODEI
ERROR
       TCTAL 288
ROCT MSE
LEF MEAN
C.V.
                                                                                                            R-SQUARE
ADJ R-SQ
                                                                                                                                                                  0.1559
                                                          PARAMETER
ESTIMATE
                                                                                                            STANDARD
ERROR
                                                                                                                                                T FOR HO:
PARAMETER=0
 VARIABLE
                                      CF
                                              297643578748417421129241
2663643578748417421129241
2663643220425749129186314
200425749129786314
200425749129786314
                                         111111
```

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0.048381
0.140383
0.060530
0.060530
0.008338091
0.002047989
0.001212976
    PRAGEEM
PAYGREM
YRACDEM
TMEGEEM
UFILLEM
LFILLEM
                                          0.031105
-0.041558
-0.033546
0.008767164
-0.00358179
00009588868
                                                                                                                                 0.643
-0.296
-0.554
1.051
-1.944
0.082
                                   144444
    DEP
                  VARIABLE:
                                                                               TOTAL
                                                                                                     HOURS
                                                                                                                         DOWNTIME
                                                                                                                                                     DUE
                                                                                                                                                                   TO
  MAINTENANCE
                                                SUM OF
SCUARES
30868466
170698105
200966571
816-401
544-699
148-7796
                                                                                           MEAN
SQUARE
1064430
656749
   SOURCE DF
MODEL 29
ERROR 259
C TCTAL 288
ROOT MSE
DEF MEAN
C.V.
                                                                                                                F VALUE PRCB>F
1.621 0.0270
                                                                                       R-SQUARE
ADJ R-SQ
                                                                                                                                 0.1536
0.0588
                                                PARAMETER
ESTIMATE
                                                                                       STANDARD
ERROR
                                                                                                                    T POR HO:
PARAMETER=0
    VARIABLE
                                CF
   2182625070888984311826250708889843111888067667735109889843111850609437388395776829570988898437079824770798516634.321221806792180798247707119887166255883
                                                                                    1111
             READINESS REGRESSIONS FOR THE GMT RATING
                                                                   TOTAL NUMBER OF CASREPS
OF MEAN
RES SQUARE F VALUE
1.332360 2.986
25 0.446138
    DEP VARIABLE: K1
SOURCL
MODEL
ERRCR
C TOTAL 36
FOCT MSE
CEP MEAN
C.V.
                                                SUM OF
SUMARES
38.638445
158.825
157.464
0.667936
0.448187
149.0308
                                                                                                                    VALUE PROB>F
2.986 0.0001
                                                                                                                                       0.0001
                                                                                                                                  0.1957
                                                                                        R-SQUARE
ADJ R-SQ
                                                PARAMETER
                                                                                        STANDARD
                                                                                                                       T FOR HO:
```

```
VARIABLE
                                                                                                                                                                                      LF
                                                                                                                                                                                                                                     ESTIMATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ERROR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PARAMETER=0
546539950560777285887217500534307
82603632965607772858872112483262648
10000122011332220011030212200001
                                                                                                                                                                                                        1
 UICEFF 16
SERVICE Y
SERVICE Y
OVER BAU

                                                                                                                                                                                                          1111
         LFILIGHT
                                                                                                                                                                                                                                                                                                                                                                                                                      TOTAL NUMBER OF C-2 CASREPS
OF MEAN
RES SQUARE F VALUE PRO
0.75 0.958503 2.496 0.00
     DEP VARIABLE:
                                                                                                                                                                                                                                                 K 2
                                                                                                                                                                                                                                                                                                                                                         SUM OF
                                                                                                                                                                                                                                                                                              SCUARTS
SCUARTS
27.796735
136.735
164.531
0.619746
0.375648
164.9808
SOURCE LF
MODEL 29
ERRCR 356
C TOTAL 365
ECCI MSE
LFF MEAN
C.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROB>F
0.0001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0.1689
0.1012
                                                                                                                                                                                                                                                                                                PARAMETER
ESTIMATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          T FOR HO:
PARAMETER=0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD
ERROR
     VARIABLE
                                                                                                                                                                                        CF
                                                                                                                                                                                                                                 1.03167855

1.03777688

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0.153365245
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0.14356936
0.14458567
0.13950702
0.1395211320
0.1335211330
0.123573628
0.142578688
0.1478986
0.1478986
 11111
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```

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0.003242078
0.037877
0.024811
0.076238
0.032378
0.004383727
0.000718717
                                   -0.00289024
0.064742
-0.056653
0.042682
0.035176
-0.00396462
-0.0006247
-0.00110115
                                                                                                            -0.891
1.283
0.286
1.086
-0.904
-0.953
  APOIGHT
ENAGEGMI
  PRAGEGNI
PAYGRGMI
YRACLGMI
TMEGRGMI
UFILLGMI
  LFILLGMT
                                                                LCG-TRANSFORMED
  DEP
                                          INDEXO 1
              VARIABLE:
                                                                                                        READINESS
                                                                                                                                   INDEX
 (NPS)
                                        SUM OF
SCUARES
2.221987
14.224731
16.446718
0.159893
0.110889
180.2632
                                                                         MEAN
SQUARE
0-076620
0-039957
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918 0.0036
  SOURCE
  MODEI
ERROB
      TCTAL 385
ROOT MSE
CEF MEAN
                                                                         R-SQUARE
ADJ R-SQ
                                                                                                             0.1351
                                        PARAMETER
ESTIMATE
                                                                         STANDARD
ERROR
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PARAMETER=0
  VARIABLE
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                                                               148566364507082985014930160
947315854526608899014845988
10000100113213000002010120
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DEP VARIABLE: CAUSES
                                        PRSCAUSE TOTAL OF PRESUMED PERSONNEL-EASED
                                       SUM OF
SCUARES
8.919458
66.116812
75.036269
0.430954
0.196891
218.8793
                                                                                   MEAN
                       E 2565
                                                                         SQUARE
0.307568
0.185721
                                                                                              F VALUE PROB>F
1.656 0.0199
  SOURCE
  MODEL
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ROOT
DEF M
                                                                         R-SQUARE
ADJ R-SQ
                   MEAN
                                        PARAMETER
ESTIMATE
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ERROR
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PARAMETER=0
  VARIABLE
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         DEP VARIABLE:
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SUN OF
SCOARES
10.807283
78.839378
88.839378
0.468179
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SOURCE
MODEL
ERRCR
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ROOT
DEF
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0.0151
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ADJ R-SQ
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ERROR
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PARAMETER=0
           VARIABLE
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0.028614
0.018743
0.057593
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0.0005356622
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-0.049152
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    ENAGEGMI
PRAGEGMI
PAYGEGMI
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UFILIGMI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1.528
-2.6394
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          LFILLGMT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -1.690
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        DEP VARIABLE:
                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                         SUM OF
SUM OF
SC44569
10264569
57509932
361.587
146.272
247.202
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SQUARE
378088
130745
  SOURCE CF
MODEL 296
ERROR 356
C TCIAL 385
ROOI MSE
DEF ME AN
C.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F VALUE
2.892
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0.0001
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ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.1907
                                                                                                                                                                                                                                                                                                             PARAMETER
ESTIMATE
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ERROR
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PARAMETER=0
        VARIABLE
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UNICCEPTE FF 
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  OVERHAUI
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HSDGGMT
APOIGEMI
ENAGEGMI
PRAYGEGMI
YRACLIGMI
THEGEGMI
UFILIGMI
LPILLIGMI
                                                                                                                                                                                                                                                                                                             TOT AL

SUM OF

SCUARES

17 200245

91 260989

108761234

506.311

262.192

193.1073
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MEAN
SQUAPE F VAI
6034_7 2.39
256351
        DEP VARIABLE:
SOURCE DF
MODEL 29
ERROR 356
C TOTAL 365
FOOT MSE
C FP ME AN
C.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F VALUE PROBSE 2.354 0.0002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0.0002
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ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.1609
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ERROR
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ESTIMATE
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PARAMETER=0
        VARIABLE
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-38:461776
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OCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		1.86850 1.86850 1.86850 1.86850 1.901	125.88 128.5758 118.5758 1118.9979 1118.5758 1118.575979 1118.5758 1118.57979 1127.5863 1127.5978 1118.7956 11	91584506802819398551479467082247395612711899039845500032111121200111010102200
PRAGEGMI	1 1 1 1	-49.042083 31.362287 19.122334 0.692263 0.614249 -0.190910	20,269525	-2.419 0.723 0.723 0.193 1.046 -0.330

REALINESS REGRESSIONS FOR THE EN RATING

DEP VARIA		OF T	OT AL	NUMBER	OF CASREPS	
SOURCE DF MODEL 29 ERRCE 25 C TOTAL 2	50M 50U1 184 9 540 88 724 MSE EAN	OF ARES S 101 6. 079 2.	ME AN 500 ARE 34 830 08 524	7 F	VALUE 3.044	PRCB>F 0.0001
ECOT C FP M C. V.	MSE EAN	1.44403 1.51557 95.2801	19 71 17	R-SQUA ADJ R-	RE 0 SQ 0	. 2542 . 1707
VARIABLE	CF	PARAMETE ESTIMAT	קוי	STANDA ERR	OP DADAME	HO: TER=0
P12345678901123456 YL RFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	111111111111111111111111111111111111111	-2.741887 -2.741887 -0.0718687 -0.071868134881348813488134881348813488134881	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3.3138 9387081 9387081 93876011 00.3376873 00.3376873 00.3376873 00.3377928 00.3377928 00.3377928 00.3377928 00.3377928 00.337856213 00.337858	5 8 3 4 1 5 5 6 7 9 9 5 7 1 6 8 9 2 9 7 6 8 2 3 9 2 4 2 3 6 2 3 6 2 6 2 3 6 2 6 2 6 2 6 2 6 2	8465732385231606718959 60084513720381606718959

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0.016966
0.200619
0.164897
0.224962
0.202522
0.029614
0.003448556
0.003351936
                                                                                                                          0.011166
0.423020
-0.234540
-0.053476
0.157923
-0.043942
-0.00440973
-0.00131104
                                                                                                                                                                                                                                                                                                                                                                                                    0.658
-1.4292
-0.416
0.780
-1.484
-1.279
-0.391
  APOTEN
ENAGEEN
PRAGEEN
 PAYGBEN
YRACLEN
TMEGREN
UFILLEN
LFILLEN
                                                                                                                                                                                                       TOTAL NUMBER OF C-2 CASREPS MEAN SQUARE F VALUE PRO 4.864447 2.673 0.0
                                                                                                                 K2 TO
SUM OF
SOUARES S
141.374 1.
612.443
1.335640
101.0051
  DEP VARIABLE:
SOURCE DF
MODEL 29
ERROR 259
C TCTAL 288
FOOT MSE
LEF MEAN
C.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                PROE>F
0.0001
                                                                                                                                                                                                                                                                    R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                                                                      0.2303
                                                                                                                                            PARAMETER
ESTIMATE
                                                                                                                                                                                                                                                                    STANDARD
ERROR
                                                                                                                                                                                                                                                                                                                                                            T FOR HO:
PARAMETER=0
  VARIABLE
                                                                                         CF
                                                                                                             ERR 74361

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9743
INTERCEPULCEFFO1
UICEFFO2
UICEFFO3
UICEFFO4
UICEFFO5
                                                                                                                                                                                                                                                                                                                                                                                                     TOTAL NUMBER OF C-3 CASREPS
MEAN
SQUARE F VALUE
0.402879 1.972
0.204319
  DEP VARIABLE: K3
DEP VARIABLE: K3 TO SUM CF SUM CF SCUARES MODEL 29 11.683496 0 ERRCR 259 52.91858C 0 C TCTAL 288 64.602076 FOOT MSE DEF MEAN 0.148789 C.V. 303.7971
                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRCE>F
0.0030
                                                                                                                                                                                                                                                                    R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                                                                       0.1809
                                                                                                                                            PARAMETER
ESTIMATE
                                                                                                                                                                                                                                                                    STANDARD
ERROR
                                                                                                                                                                                                                                                                                                                                                            T FOR HO:
PARAMETER=0
  VARIABLE
                                                                                         ĹF
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-0.00011047484334
-0.00011047484334
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-0.00011047484334
                                                                                                                 TOTAL NUMBER OF C-4 CASREPS
  DEP VARIABLE:
                                                         SUM CF
SOUARES
1.323302 0
7.396421 0
8.719723
0.168990
0.031142
542.6456
                                                                                                        MEAN
SQUARE
0.045631
0.028558
 SOURCE DF
MODEL 29
ERRCE 259
C TCTAL 288
FOOT MSE
DEF MEAN
                                                                                                                                                                VALUE . 598
                                                                                                                                                                                                                PRCE>F
0.0308
                                                                                                                                  R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                   0.1518
                                                                                                                                                                             T FOR HO:
PARAMETER=0
                                                                      PARAMETER
ESTIMATE
                                                                                                                                  STANDARD
  VARIABLE
                                             LF
                                                                                                                                               ERROR
                                                        1.0258717
-0.039536661
-0.078881597
-0.028881597
-0.0288865621
-0.026856621
-0.0182366661
-0.0182366661
-0.0055899908546
-0.0055949085467872
-0.0055949085467872
-0.005928867872
-0.005928867872
-0.0079382278
                                                                                                                 2119566599031114961180795674
2199865575441844961180795674
210110110114064159992265
210110110114064159992265
210110110114064159992206
                                                  111
```

```
PAYGREN
YRACLEN
TMEGREN
UFILLEN
LFILLEN
                            -0.047907
0.054383
-0.000139867
-0.000211005
.00004368046
                                                         0.026326
0.023700
0.003465617
0.0004035705
C.0003922635
                                                                                                  -1.820
2.295
-0.040
-0.523
0.111
                                                         LOG-TRANSFORMED
DEP
            VARIABLE:
                                      INCEXO1
                                                                                              READINESS
                                                                                                                      INDEX
(NPS)
                            SUM CF

SQUARES

23.502319 0

77.252170 0

100.754

0.485185

112.5637
                                                    MEAN
SQUARE
0.810425
0.298271
SOURCE DF
MODEL 29
ERROR 259
C TCTAL 288
FOOT MSE
LIF MEAN
C.V.
                                                                            F VALUE 2.717
                                                                                                    PROE>F
0.0001
                                                                  R-SQUARE
ADJ R-SQ
                                                                                                  0.2333
                                   PARAMETER
ESTIMATE
                                                                  STANDARD
                                                                                          T FOR HO:
 VARIABLE
                      CF
                                                                         ERROR
                                                                                        PARAMETER=0
                            0.076
0.822
-1.137
-0.799
-0.650
 DEP
           VARIABLE:
                                      MEMRAC
                                                         LOG-TRANSFORMED
                                                                                              READINESS
                                                                                                                       INDEX
(SPCC)
SOURCE DE SOUARES S

MODEL 29 334.990 11

ERRCE 259 1258.274 4

C TOTAL 286 1593.264

FOOT MSE 2.204133

DEF MEAN 0.788636

C.V. 279.4867
                                                   MEAN
SQUARE
11.551383
4.858201
                                                                            F VALUE 2.378
                                                                                                         PROE>F
0.0002
                                                                  R-SQUARE
ADJ R-SQ
                                    PARAMETER
ESTIMATE
                                                                                        T FOR HO:
PARAMETER=0
                                                                  STANDARD
 VARIABLE
                       CF
                                                                         ERROR
INTERCEP
UICEFF01
                                    5.275616
-0.661707
                                                                  6.010463
                                                                                                  0.878
```

```
9333569

98144693259

981446933259

59812004336705356

501200433659

501200953354413880

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501200953354413880

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267539924497928106755661779218
26753992817131468357763017918
267539626447923655718
277539626449923655763017918
277539627131468357763017918
                                                                                                                                      1111
        DEP
                                                                VARIABLE:
                                                                                                                                                                                                                                                                                                                          TOTAL
                                                                                                                                                                                                       M
                                                                                                                                                                                                                                                                                                                                                                                                                  HOURS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOWNTIME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TO
MAINTENANCE
                                                                                                                                                        SUM OF
SCUARES
58845148
288128044
346973192
1054-734
679.315
155.2644
                                                                                                                                                                                                                                                                                                MEAN
SQUARE
2029143
1112463
      SOURCE DF
MODEL 29
ERRCR 259
C TCTAL 288
FOOT MSE
DEF MEAN
                                                                                                                                                                                                                                                                                                                                                                                                                                         VALUE
1.824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROB>F
0.0079
                                                                                                                                                                                                                                                                                                                                                                                                                              P
                                                                                                                                                                                                                                                                                                                                                         R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0.1696
                                                                                                                                                                                            PARAMETER
ESTIMATE
                                                                                                                                                                                                                                                                                                                                                         STANDARD
ERROR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          T FOR HO:
PARAMETER=0
        VARIABLE
                                                                                                                           LF
  77111111111111
```

- 4-

```
PAYGEEN
YRACCEN
TMEGFEN
UFILLEN
LPILIEN
                                       66.199533
90.706881
-17.163688
-0.796684
-1.349341
                                                                           164.313
147.923
21.630301
2.518845
2.448273
                                                                                                                   0.403
0.613
-0.794
-0.316
-0.551
                             111
                                                            TOTAL HOURS DOWNTIME DUE TO SUFFLY
 DEP VARIABLE:
                                 SUM OF
SOUARES
23430516
108889830
132320346
648.401
391.671
165.5473
                                                                   MEAN
SQUARE
807949
420424
SOURCE
MODEL
ERRCE 2
C TCTAL
FOOT
DFF
                   DF
29
25
25
28
1 MSE
MEAN
                                                                                               VALUE
1.922
                                                                                                                         PROE>F
0.0042
                                                                             R-SQUARE
ADJ R-SQ
                                                                                                                   0.1771
                                         PARAMETER
ESTIMATE
                                                                             STANDARD
ERROR
                                                                                                       T FOR HO:
PARAMETER=0
 VARIABLE
                           CF
1.337
-1.787
1.505
-0.932
-0.929
                                                                                                                   YRACDEN
TMEGREN
UFILLEN
LFILLEN
                             1
DEP VARIABLE:
                                    T
                                                            TOTAL
                                                                         HOURS DOWNTIME
                                                                                MEAN
SQUARE
3338889
1503482
MODEL 29
ERROR 259
C TOTAL 268
FCOT MSE
LEP MEAN
C.V.
                                                  SUM OF
                                         SUM OF
SCUARES
96827773
389401831
486229604
1226-166
107C-986
114-4894
                                                                                                          VALUE
2.221
                                                                                                                              PRCB>F
0.0006
                                                                             R-SQUARE
ADJ R-SQ
                                         PARAMETER
ESTIMATE
                                                                             STANDARD
EREOR
                                                                                                       T FOR HO:
PARAMETER=0
 VARIABLE
 INTERCEPUICEFF01
UICEFF02
UICEFF03
                                       851.871
-430.834
-40.487696
-454.018
                                                                              3343.639
323.807
314.867
306.419
                                                                                                                   0.255
-1.331
-0.129
-1.482
                             1
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OSOS STATE OF THE PRINCIPLE OF THE PARAMETER OF THE PARAM	99-25-568830999047646359330999047646339330999047664981995-4-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	53678 63678 63678 636944 63694 63694 63694 63694 63694 63694 63694 63694 636944 63694 63694 63694 63694 63694 63694 63694 63694 636944 63694 63694 63694 63694 63694 63694 63694 63694 636944 63694 63694 63694 63694 63694 63694 63694 63694 636944 6369	425916996247335025316219 735822213541504071644629 2082690388586039388601629 0303002010100102000120001
	106.708 -12.549517 -0.941110 -1.558556		0.621 -0.499 -0.321 -0.548

READINESS REGRESSIONS FOR THE GSM RATING

DEP VARIABLE	SUM OB	L NUMBER OF MEAN	CASREPS
SOURCE DF MODEI 29 ERRCR 259 C TOTAL 288	SCUARES 185-991 826-728 1014-720 1-788777 2-031142 88-06756	SQUARE 6.413495 3.199723	F VALUE PROFSE 2.004 0.0024
ROOT MSE DEF MEAN C.V.	1. 768777 2. 031142 88.06756	R-SQUARE ADJ R-SQ	0.1833 0.0918
VARIABLE CF	PARAMETER ESIIMATE	STANDARD ERROR	T FOR HO: PARAMETER=0
F123445678901123456 YL FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	-0.2934990 -0.2936902 -0.72836902 -0.72836902 -0.75560000 -1.06509560 -1.06509560 -1.06515826 -0.212384297 -0.212384297 -0.212382977 -0.212882977 -0.212882977 -0.21288290 -0.	024808597250921644048912 494137380792899216444048912 495538135803059216494706333949559 50.55451969346613801654337559 60.5554519693454937557052027 60.5554519693456937052027 60.55545196937052027	2454971224626262644635133

```
-0.020188

0.387516

-0.149380

0.002536219

0.001646387

-0.00179317
                                                                      0.151758
0.281996
0.176537
0.023455
0.05624682
0.010859
PRAGEGSM
PAYGEGSM
YEACDGSE
TMEGEGSM
UFILLGSM
                                                                                                                      -0.133
1.374
-0.846
0.108
0.328
                             1111
                                                                                                                              165
                                                            TOTAL NUMBER OF
                                                                                                     C-2 CASPEPS
DEP VARIABLE:
                                     K2
                                             SUM OF
SCUARES7
152.344
788.851
1.587043
1.636678
96.9673
                                                                               MEAN
SQUARE
4.707132
2.518704
                                                                                                      F VALUE PROBSF
1.869 0.0059
SOURCE
MODEL
                       259
259
258
MSE
ERRCE 259
C TOTAL 288
ROOT MSE
LEP MEAN
C.V.
                                                                                                                      0.1730
                                                                               R-SQUARE
ADJ R-SQ
                                          PARAMETER
ESTIMATE
                                                                               STANDARD
ERROR
                                                                                                         T FCR HO:
PARAMETER=0
VARIABLE
                           CF
                                                                    2555074809571225
-0.659074809571225
-0.659074809571225
-0.659074809571225
PRAGEGSM
PAYGEGSM
YRACLGSM
TMEGRGSM
UFILIGSM
LFILIGSM
                                                             TOTAL NUMBER OF MEAN ES SOUARE 10 0.746369 39 0.477758
DEP VARIABLE:
                                    К3
                                                                                                     C-3 CASREPS
                                          SUM OF
SUM OF
SCUARTS
21.644710
123.739
145.384
0.691201
0.370242
186.6887
                        259
259
288
                                                                                                           VALUE
562
SOURCE
MODEL
ERROR
                                                                                                                          PROB>F
0.0377
     TCTAL 288
FCOT MSE
DEF MEAN
C.V.
                                                                               R-SQUARE
ADJ R-SQ
                                                                                                                       0.1489
0.0536
                                          PARAMETER
ESTIMATE
                                                                               STANDARD
ERROR
                                                                                                          T FOR HO:
PARAMETER=0
 VARIABLE
                            ΙF
                                           2.355229
-0.272018
-0.025426
                                                                                2.123127
0.210219
0.212967
                                                                                                                      1.109
-1.294
-0.119
 INTERCEF
UICEFF01
UICEFF02
```

```
0.1893598
0.1875913
0.198486
0.198486
0.188947341
0.167725243
0.17225243
0.1889315143
0.1889315143
0.1889315143
0.1238814271
0.188925444716
0.009104716
0.009104716
0.00910738416
0.00910738416
0.0091073818
                                                                                                                                                        0.0140579401828

-0.1340849

-0.1247758

-0.24797287753

-0.1251304457

-0.1251304457

-0.12513332277

-0.1253332277

-0.129102121

-0.13406849

-0.14340849

-0.1649387

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 DEP
                                                                                                                                                                                                              INDEXO1
                                                                                                                                                                                                                                                                                                                      LOG-TRANSFORMED
                                                                VARIABLE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               READINESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INDEX
(NPS)
                                                                                                                                                                                                           SUM OF
SCUARES
8.715978
102.046
130.762
0.627695
0.629450
99.72119
                                                                                                                                                                                                                                                                                                                                                                    MEAN
SQUARE
0.990206
0.394001
 SOURCE
MODEL
ERROR
C TCTAL
FOOT
DEF
                                                                                                 259
259
288
MSE
ME AN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F
2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VALUE PROB>F
513 0.0001
                                                                                                                                                                                            28.
                                                                                                                                                                                                                                                                                                                                                                      R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0.2196
0.1322
                                                                                                                                                                                                PARAMETER
ESTIMATE
                                                                                                                                                                                                                                                                                                                                                                      STANDARD
ERROR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             T FOR HO:
PARAMETER=0
     VARIABLE
                                                                                                                                                            E R 0500824094096244990337349900118703282974223666621715565544419000116770328577525509989977525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21705804657829832493369392
0777062063942873730462908700
1002122201101011000300001
  7111111
```

```
0.061948
0.008230533
0.001973743
0.00381051
  YRACDGSE
TMEGRGSM
UFILIGSM
                                     -0.065313
0.001745896
0.0001731249
0.001493167
                                                                                                                              -1.054
0.212
0.088
0.392
  LFILLGSM
                                                                          LOG-TRANSFORMED
  DEP
            VARIAELE:
                                                 MEMRAC
                                                                                                                         READINESS
                                                                                                                                                       INDEX
(SPCC)
                                                 SUM OF
SOUARES
487.369
2761.755
3249.124
3.265447
1.603369
203.6616
                                                                                  MEAN
SQUARE
16.805834
10.663145
 SOURCE LF
MODEL 29
ERROR 259
C TOTAL 288
ROOT MSE
LEE MEAN
C.V.
                                                                                                             F VALUE PROB>F
1.576 0.0348
                                                                                    R-SQUARE
ADJ R-SQ
                                                                                                                              0.1500
                                              PARAMETER
ESTIMATE
                                                                                    STANDARD
ERROR
                                                                                                                 T FOR HO:
PARAMETER=0
  VARIABLE
                              CF
                                                                                                                              1.66822239654678264
-1.096339654678264
-1.096339654678264
-1.096339654678264
                                     16.199839207728339207728339392077283393333222752338333222752383739953377899633778996337789963357889788123525288277889283513442
                                                                            -0.8413234035740
-0.81184035740
-0.811857100023
-0.9263100022
 DEP
                VARIABLE:
                                                 M
                                                                             TOTAL
                                                                                                  HOURS
                                                                                                                      DOWNTIME
                                                                                                                                                  DUE
                                                                                                                                                                TO
MAINTENANCE
                                              SUM OF
SCULAR
70829765
25431832429
25431832429
9990-989
742-602
133-4482
                                                                                        MEAN
SQUARE
2442406
982060
 SOURCE
MODEL
ERROE
                          DP
299
258
MSE
                                                                                                             F
2.
                                                                                                                   VALUE PROBSF
487 0.0001
       TCTAL
ROOT
LEF
C.V.
                                                                                     R-SQUARE
ADJ R-SQ
                                                                                                                              0.2178
0.1302
                      1 MSE
MEAN
                                              PARAMETER
ESTIMATE
                                                                                     STANDARD
ERROR
                                                                                                                 T FOR HO:
PARAMETER=0
  VARIABLE
                              CF
  INTERCEPULCEFF01
                                              69.900655
-183.471
-434.448
                                                                                     3043.974
301.396
305.336
                                                                                                                              0.023
-0.609
-1.423
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MEAN
SOUARE F VAI
3064946 1.898
      DEP VARIABLE:
                                                                                                                                                                                                                      T
                                                                                                                                                                                                                                                                                                                                                             TOTAL
                                                                                                                                                                                                                                               SUM OP
SCUARES
888834130
418184130
507067559
1270-673
1200-564
105-8397
   SOURCE DF
MODEL 259
ERROF 259
C TCTAL 288
ROOT MSE
DEF MEAN
C.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VALUE PROB>F
898 0.0049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0.1753
0.0829
                                                                                                                                                                                                                                                  PARAMETER
ESTIMATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD
ERROR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      T FOR HO:
PARAMETER=0
      VARIABLE
                                                                                                                                                            CF
38.0556.04

7035214910

7035214910

7035214910

7035214920

7042163581

7055554.0.242263581

706116823732.0.343810

706116823732.0.343810

706116823732.0.343810

706116824732.0.3446776566946902

70013464477655683

700134644776588.0

700134644776588.0

700134644776588.0

700134644776588.0

700134644776588.0

700134644776588.0

700134644776588.0

7001346499992
                                                                                                                                                                                                                                                                                                                                                                                                                                                   218953932081784027470015216
9920958933355977068851500103096
912076805046265211522225103096
000211030110200101030100011
```

```
TMEGRGSM 1 3.439326 16.661456 0.206 UPILIGSM 1 -0.766648 3.995542 -0.197 LFILIGSM 1 -4.614630 7.713796 -0.598
```

READINESS REGRESSIONS FOR THE HI RATING

			_		
		K 1	TOT	AL NUMBER OF	CASREPS
CF L F	29 356 385	84 4 4	CUARES 267436 03.712		F VALUE PROB>F 2.562 0.0001
FCCI DEP 1 C. V.	M S E 1 E A N	1. 0. 14	064905 730570 5.7636	R-SQUARE ADJ R-SQ	0:1727 0:1053
ABLE	CF	PAR	AMETER IIMATE	STANDARD ERROR	T FOR HO: PARAMETER=0
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF		-0000000000000000000000000000000000000	418942111686197976171846390759522 9185020744460341692319002294850 9185027375474460341692319902294850 918573752713177833384608319902294850 91857375271317783338463990759522	2.51999999999999999999999999999999999999	5446542292340788644788887355997 1632811196208644025204478880224 1632005739385070723497880224 16320057938507072393127244 16320057938507072393127244 16320057938507072393127244
VARI	ABLE:			AL NUMBER OF	C-2 CASREPS
CE I	29 356	79.5 3	CUARES 559200 65.581	SOUARE 2.743421 1.083092	F VALUE PROB>F 2.533 0.0001
FÖÖT C.V.	M SE M F A N	1.0	040717 699482 48.784	R-SQUARE ADJ R-SQ	0.1710 0.1035
	CF			STANDARD ERROR	T FOR HO: PARAMETER=0
FCEF	1	-0:	891069 174988	2.461699 0.263278	-0.362 -0.665
	CLETEDO A REFERENCE FERENCE VI CLETEDO A REFERENCE VI	CLIFIC A REFERENCE THE TERRETTERS OF A CITAL TABLE TO THE ACCE. A REFERENCE VI TABLE TO THE ACCE. A REFERENCE	CE LE 2965 1 -000 00 00 00 00 00 00 00 00 00 00 00 0	TACLY	CF LF SQUARES

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0.017333709

-0.0173333045518

-0.01733330845518

-0.03508455184307

-0.03508455188370

-0.03508450884307

-0.03508450884307

-0.035084407

-0.03508440076246

-0.03508440076246

-0.0444392924444

-0.04477882924444

-0.04477882924444

-0.001682314313

-0.001682314313

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-0.001682314313
                                                                                                                      6748422245766043534821026268
408714820540081809189097079102
1071482046846607263265314355
000010041211000011300000110
  DEP
                         VARIABLE:
                                                                               INCEXO1
                                                                                                                      LCG-TRANSFORMED
                                                                                                                                                                                                  READINESS
                                                                                                                                                                                                                                                     INDEX
(NPS)
                                                                        SUM OF
SCUARES
10.561608
14.5549241
55.510849
0.325687
157.445
                                                                                                                                        MEAN
SQUARE
0.364193
0.126262
  SOURCE
MODEL
ERROR
C TCTAL
                                     256
356
385
MSE
MEAN
                                                                                                                                                                               F VALUE 2.884
                                                                                                                                                                                                                 PROB>F
0.0001
                    RCOI
CFF
                                                                                                                                        R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                           0.1903
0.1243
                                                                         PARAMETER
ESTIMATE
                                                                                                                                       STANDARD
ERROR
                                                                                                                                                                                    T FOR HO:
PARAMETER=0
  VARIABLE
                                                CF
                                                         ERROR
0.0809966
0.0809996
0.0809932
0.08251492
0.082214469
0.077384384
0.077384384
0.077384384
0.077384384
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0.077384384
89054813516779772299372098
2424962233835624246699543661
24003133035679663843314561
240001101204121000011120100
```

```
0.003 £ £ 99 59
-0.014167
0.007 183269
0.001487393
0.0007243872
                                                                                        0.056048
0.037121
0.005590661
0.0008881664
0.0005873469
                                                                                                                                                       0.069
-0.382
1.285
1.675
1.233
  PAYGRHT
YRACIHT
TMEGRHT
UPILIHT
LFILIHT
                                       111
                                                           MEMRAC
                                                                                        LOG-TRANSFORMED
  DEP
                   VARIABLE:
                                                                                                                                                READINESS
                                                                                                                                                                                     INDEX
 (SPCC)
                                                                  SUM OF
                                                       SUM OF
SCUARES
25.377603
228.521
0.755399
0.132010
572.2288
 SOURCE DF
MODEL 29
ERROR 356
C TCTAL 385
FOOT MSE
LFF MEAN
C.V.
                                                                                                     SQUARE
0.875090
0.570628
                                                                                                                                      F VALUE PRCE>F 1.534 0.0411
                                                                                                     R-SQUARE
ADJ R-SQ
                                                                                                                                                       0.1111
                                                       PARAMETER
ESTIMATE
                                                                                                     STANDARD
ERROR
                                                                                                                                      T FOR HO:
PARAMETER=0
   VARIABLE
                                    LF
                                            -0.12578
-0.12579
-0.125793521
-0.125793521
-0.125793523
-0.12593523
-0.12593523
-0.12593523
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-0.1265837144
-0.126683714453154
-0.12684135354
-0.000016683714453154
-0.000016683714453154
-0.0000166837144531578
-0.000016841353148
-0.000016841353148
-0.000016841353148
                                                                                                                                                      0.675
-0.062
-0.731
-0.698
2.927
-0.954
  INTERCEPUICEFF01
UICEFF02
UICEFF03
                                                                                        1.786956958590017797733499001777657857663989564480001777755857663989564480001155375490817777281818143
  14954045680084987483940
1468186641667821779993132773430
1000111667821779993132777430
100011166782177430
                                                                                                                                                       -1.434
0.080
-0.280
-0.191
                                        1
  DEP VARIABLE:
                                                       PRSCAUSE TCTAL OF
                                                                                                                 PRESUMED PERSONNEL-FASED
CAUSES
                                                       SUM OF
SQUARES
12-161200
97-776623
109-938
0-524074
0-527979
229-8779
       TOTAL 385
ROOT MSE
CFF MEAN
C.V.
                                                                                                                   MEAN
                                                                                                     SQUARE
0.419352
0.274653
                                                                                                                                   F
1.
                                                                                                                                        VALUE PRCB>F
527 0.0428
   SOURCE
  MODEI
ERROB
                                                                                                     R-SQUARE
ADJ R-SQ
                                                                                                                                                       0.1106
0.0382
                                                                                                                                       T FOR HO:
PARAMETER=0
                                                       PARAMETER
ESTIMATE
                                                                                                      STANDARD
   VARIABLE
                                    CF
                                                                                                               ERROR
                                                                                                      1.239638
  INTERCEP
UICEFF01
                                                       -0.422255
-0.057836
                                                                                                                                                       -0.341
-0.436
```

```
0.0649157
-0.15899177
-0.15899177
-0.15899177
-0.15899177
-0.1589990
-0.26798390
-0.26798390
-0.26798390
-0.26798390
-0.16258990
-0.16258995
-0.16258995
-0.162588887
-0.123288847
-0.123288847
-0.123288847
-0.033188847
-0.033177645
-0.033177645
-0.0033177645
                                                                                                                                                                                                                                                                                                                                      4496910134905266608307641952
134428893700810548667589300
15532044716125563588267589300
11100202100110111000110000
         DEP
                                                                       VARIABLE:
                                                                                                                                                                                                                                                                                                                                                       TOTAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                        HOURS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOWNTIME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TO
MAINTENANCE
                                                                                                                                                                                                              SUM OF
SQUARES
30 186505
156 283138
186469643
662-569
3-1-052
20 0-1406
                                                                                                                                                                                                                                                                                                                                                                                                        MEAN
SQUARE
1040914
438998
      SOURCE
MODEL
ERROR
C TCIAL
FOOI
LEF L
                                                                                                         DF
29
356
385
MSE
ME AN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VALUE PROB>F
2.371 0.0001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F
                                                                                                                                                                                                                                                                                                                                                                                          R-SQUARE
ADJ R-SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.1619
                                                                                                                                                                                                             PARAMETER
ESTIMATE
                                                                                                                                                                                                                                                                                                                                                                                         STANDARD
ERROR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     T FOR HO:
PARAMETER=0
         VARIABLE
                                                                                                                                     CF
 15668223336290
15668223336290
15551-688223336290
15551-688223336290
15551-688223336290
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-32.489652
11.746991
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1.731772
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3180613541048767449035955459611
010010120322100001111010000010
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IIST OF REPERENCES

- 1. Barizily Z., Marlow W.H., and Zacks S., Survey of Arrivaches to Readiness, Naval Research Logistics Quarterly, March 1979.
- 2. Horowitz, S.S., and Sherman, A., <u>Crew Characterisitics</u>
 and <u>Shir Condition</u> (<u>Maintenance Personnel</u>
 <u>Effectiveness Study (MEPS)</u>), Center for Naval
 Analysis, Report CNA 1090, March 1977.
- 3. Horowitz, S.S., and Sherman, A., Maintenance Personnel Effectiveness in the Navy, Center for Naval Analysis, Report CNA 76-0162.10, October 1976.
- 4. Reeves W.R., <u>An Analysis of the Effect of Personnel Turbulence on the Performance of Operational Units, N.S. Thesis, Naval Postgraduate School, December 1982.</u>
- 5. May J.D., LCDR, USN, An Analysis of the Effect of Personnel Characteristics of the Performance of DD-963 Class Ships, N.S. Thesis, Naval Postgraduate School, December 1983.
- 6. May J.D., McGarvey W.E., and Elster R.S., Relating Resources to Readiness: Personnel Attributes, Fill Ratios, and CASREPS, unpublished paper, Naval Postgraduate School, January 1984.

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